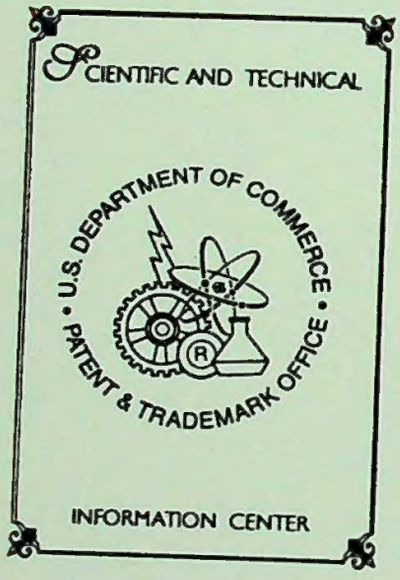
SCIENTIFIC AND TECHNICAL
U.S. DEPARTMENT OF COMMERCE
PATENT & TRADEMARK OFFICE
INFORMATION CENTER

Published
by
Brookhaven Press
www.brookhavenpress.com

Digital Production
by
Northern Micrographics, Inc.
2004 Kramer Street
LaCrosse, Wisconsin 54602

Printed on Acid-free Paper
Digital Reprint Edition
2001

608-781-0850
www.normicro.com

AN ACCOUNT

OF THE DESTRUCTION BY FIRE

OF THE

NORTH AND WEST HALLS

OF THE MODEL ROOM IN THE

United States Patent Office Building,

ON THE 24TH OF SEPTEMBER, 1877,

TOGETHER WITH A

HISTORY OF THE PATENT OFFICE

From 1790 to 1877.

[ILLUSTRATED.]

WASHINGTON, D. C.,
OCTOBER 23, 1877.

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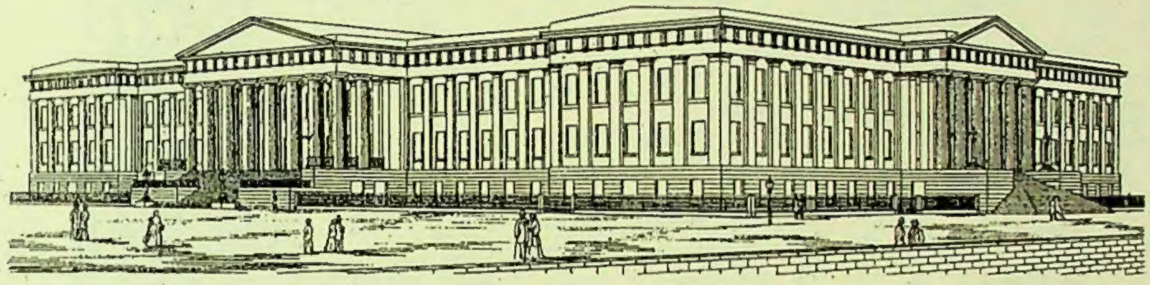
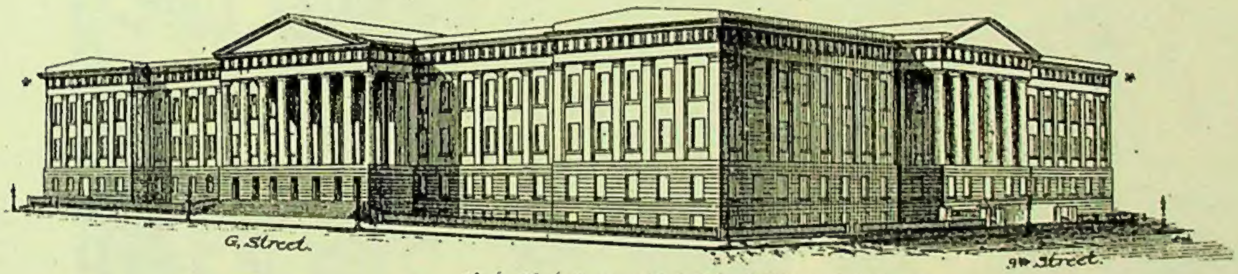
PERSPECTIVE VIEWS U. S. PATENT OFFICE BUILDING, 1877.



South East Angle of U. S. Patent Office Building.



North West Angle of U. S. Patent Office Building.

* *The upper portion of these wings entirely destroyed by fire Sep. 24th 1877.*

Secretary of the Interior: C. Schurz
Assistant Secretary of the Int. Dept. A. Bell.
Chf. Clerk of the Int. Dept. Geo. M. Lockwood

Commissioner of Patents: Ellis Spear.
Assistant Com. of " : M. H. Doolittle
Chf. Clk. Patent Office:

Commissioner of the Land Office: J. A. Williamson
Chf. Clk. " " : W. J. Baxter

Commissioner of Indian Affairs: E. A. Hayt
Chf. Clk. " " : C. W. Holcomb

N. Peters Photo-Lithographer, Washington D.C.

GENERAL VIEW OF THE PILE IN THE NORTH STREET SIDE OF THE PATENT OFFICE

Heliotype Printing Company. 220 *Devonshire Street, Boston.*

VIEW OF THE U. S. PATENT OFFICE BUILDING,

FROM CORNER OF NINTH AND G STREETS,

Showing portions Destroyed by Fire, September 24, 1877

AN AUTHENTIC ACCOUNT

OF THE

FIRE OF SEPTEMBER 24, 1877,

WHICH DESTROYED THE

NORTH AND WEST HALLS

OF THE

UNITED STATES PATENT OFFICE BUILDING;

Also, some Historical Data in Reference to the Organization and Early History of the Patent Office, &c.

THE FIRE.

Washington, with singular good fortune, has almost wholly escaped the terrible scourge of great and destructive fires which has so often visited other large towns and cities. Her wide streets and the absence of great business blocks and large manufacturing establishments will in part account for this marked feature of her history as a city. It is here, however, where the priceless archives of the Government are stored, that fire can do the most lasting and irreparable damage. There was a popular faith that whatever might be the security offered to the records of the Government elsewhere, the important and valuable archives of the Department of the Interior were sheltered in a building nearly, if not wholly, fire-proof. Here were the records of the Land Office, Bureau of Indian Affairs, and others of the many distinct bureaus connected with this Department. Here, too, were the records, original drawings, and models of the Patent Office, forming a collection of inestimable value and world-wide fame.

Shortly after eleven o'clock on Monday, the 24th of September, an alarm of fire was sounded. It was soon followed by the general alarm. But little attention was given to it by the people until the rumor flew through the city that the Patent Office was on fire. Columns of smoke were seen issuing from its roof, and a shower of flying cinders gave evidence that a serious fire had begun its work. It seemed almost incredible, however, that it could do much damage to the beautiful building upon which it had fastened itself. Yet the fact that so important a Government edifice was on fire created great excitement. The fire-engines and the crowd were on the ground at about the same time, and to the people in the streets the scene was as unexpected as it was sad and appalling. So great was the faith of the officers, clerks, and other employés of the Department, however, in the security of the building against fire, that for some time the alarm did not create very great apprehension as to the safety of the building or its valuable contents.

To understand how the upper portion of this so-called fire-proof structure, with the most valuable and interesting part of its contents, could so easily become a prey to the flames, and also for the sake of giving a concise and connected account of the disaster, we will first describe the construction of that part of the building where the fire originated, and from which it spread.

CONSTRUCTION OF THE ROOF.

"The roof was what is commonly known as a 'truss-roof.' The tie-rods, rafters, braces, and struts were of iron. The purlines, trusses, sheathing, and ceiling were constructed of pine wood. The pine sheathing of the roof was covered with sheet copper about one-fortieth of an inch in thickness. The chimney-tops were of iron, set over the flues upon the brick wall, about twelve inches below the roof, and they extended above the roof about two and a half feet. Over the gutters, running around the entire wing, was placed a pine grating, to keep them from clogging up in the winter and to protect them from the heat of the sun in the summer. This grating was made of inch boards, fastened together by cross-pieces of 2 by 3 inch scantling, and it was constructed in sections four feet in width by ten feet in length."

THE CONSERVATORY AND REJECTED MODELS.

Under the south end of the roof on the Ninth-street or west wing was located a conservatory, or hot-house, used for the purpose of preserving plants in the winter. The walls of this room were made of ¼-inch boards, tongued and grooved; the floor was made of planks, resting on the ceiling of the model-room, and was covered with zinc, and the roof of the room was of glass. Wooden shelves were arranged for the accommodation of the plants, and just outside there was a small tank, from which necessary water was obtained. The only door leading into the conservatory was on the east side of the roof. Just north of the conservatory was a space occupied by the rejected models and exhibits. In this space, extending from the conservatory to the G-street or north wing, were stored about 12,000 rejected models. The law permits the Commissioner of Patents to sell these models after they have been two years in the Office, or to loan them to colleges or other literary and scientific institutions, or to return them to applicants. About four years ago a distribution of them was made, a few only of the most important ones being retained.

THE INFLAMMABLE LOFT.

Those which were in this space at the time of the fire, were the accumulations of the past four years, and were awaiting the disposition which the Commissioner of Patents had in contemplation. The staging and shelving of this loft, as well as the conservatory and its surroundings, were of very inflammable material. It

is stated by the contractor that more than 100,000 feet of white-pine lumber was used in the construction of the roof of the west wing, exclusive of the immense amount of the same material that had found its way into this part of the building in making room for the growing demands of the Office for space. The ceiling of the model-room was also liable to speedy destruction by fire. Instead of iron and brick forming the framework above this valuable repository, wooden timbers, with an occasional iron brace, were used, and they were covered with ordinary lath and plaster.

THE MODEL-ROOM AND ITS CONTENTS.

The model-room comprised the whole of the third story, immediately under the inflammable roof we have described, and consisted of four grand halls, opening into each other, and affording a promenade of about one-fourth of a mile around the four sides of a quadrangle.

These magnificent halls were fitted up with tiers of cases, the room being sufficiently high for two tiers, one above the other. Each case was eight feet in height by from sixteen to twenty feet in length. They were made of white pine, with glass sides and ends. They were so placed that there was sufficient room around each case to make them easy of access both to the casual visitor and to inventors and examiners. The cases could be opened and their contents inspected at any time in the immediate presence of an employé of the Patent Office. This great gallery was visited yearly by thousands of people, both for profit and pleasure. It contained about 200,000 models of American invention, besides many curiosities and mementoes, specimens of home manufacture, and priceless treasures of deep historic interest. Among them were Washington's commission as commander-in-chief of the American forces, his uniform, camp-chest, and other personal effects; the coat which General Jackson wore at the battle of New Orleans, the printing-press first used by Benjamin Franklin, and many other interesting relics and trophies, all of which relics were saved.

THE NATIONAL GALLERY.

The act of July 4, 1836, authorized the creation of this national gallery, and in these early days its future usefulness was recognized and every effort made to induce an exhibit of the manufacturing industries of the country therein. It is doubtful, however, whether its most enthusiastic advocate ever anticipated the extent and diversity of its future contents.

We have here, then, a roof, a loft, and four great halls filled with material as inflammable as it was valuable, all arranged as if to provide for the spread of fire, and no provision for flooding the floors, or to enenable firemen to successfully fight the flames.

ORIGIN OF THE FIRE.

How the fire originated will probably never be known with absolute certainty. A committee appointed by the Secretary of the Interior reached the conclusion that it caught in the wooden grating before referred to on the roof from a spark from the chimney, and burned through the copper sheathing, thus igniting the wooden portion of the roof underneath. Another theory is that the fire originated in the rejected model-room, from a defective flue immediately over the southeast corner of the Ninth-street portico, and near the conservatory, from the skylight of which smoke seemed to issue with the greatest force and volume when the fire was first discovered. When some of the employés of the building first reached the roof, a portion of the wooden grating we have mentioned was discovered to be on fire, while dense clouds of smoke were issuing from the skylights along nearly the entire length of the roof.

A DELAY IN GETTING WATER.

One of the first persons to reach the scene reports that the copper covering was so hot that the heat was perceptible through heavy shoe-soles. How long the fire was smouldering before it gained headway no one can tell. There was some delay in getting water to the fire as the firemen were obliged to carry their hose up two stairways and through some five hundred feet of corridors before a stream could be thrown. No access could be obtained to the loft where the rejected models were stored, save by a narrow and crooked stairway, and the tank of water which stood outside the south end of the attic could not be reached because of the rapidity with which the flames spread. To add to the difficulties under which the firemen labored, the fire was some eighty feet above the street, and twenty feet above the highest rise of Potomac water, so that the pressure from the hydrants was of no avail. About twenty minutes after the discovery of the fire the first stream of water was thrown on it, but by that time an acre of flame was sweeping over the entire west wing, bursting through the windows and portions of the roof with a fierceness that threatened the destruction of the entire building.

AID FROM ALEXANDRIA AND BALTIMORE.

For a time the exertions of the firemen seemed of no avail, and within the first half hour so serious was the danger that help was telegraphed for. The Alexandria engine was speedily on the ground and went to work at once. With the most generous promptness Baltimore responded with four engines, which came by rail with remarkable speed, and rendered the most efficient and timely aid in this and another fire.

FIGHTING THE FLAMES.

Lines of hose were run up the sides of the building and over the roof. Holes were cut, and floods of water poured into the upper stories. Men in the corridors worked hard to remove the records to places of safety, and firemen, perched on ladders outside, steadily fought the fire in the model-room halls on the west and north sides of the building. The Department and Bureau officers were everywhere present, and took the best measures to save the archives and public property from damage, and stay the flames. At about one o'clock orders were given to remove the books and papers from some of the more exposed offices. The Draftsmen's Division, containing the vital records of the Patent Office was in eminent danger, for it is situated directly under a portion of the west wing of the model-room, and two ventilators ran from it directly up to the burning portion of the building. Down these ventilators soon came a shower of live coals and molten metal, making it a difficult and dangerous task to remove the records. An employé stopped one of the apertures

with a coal-scuttle, and another held a water-cooler over the other, while willing hands labored to save this priceless property. In this division were 777 folios, containing 211,243 original drawings, whose value could not be estimated in money. These were all removed and replaced without the loss of a single drawing. The work of removing the records and office-furniture from all the exposed portions of the building went on with vigor, and at the same time every effort was made to save the models in the halls of the west and north wings, but without avail, and they were nearly all destroyed. By the time it was known that they were in serious danger the whole of the west hall was enveloped in fire.

THRILLING SCENES.

The scene when the fire was at its height was intensely exciting. The corridors were crowded with men working desperately to save property. Books, papers, office-furniture, and models lined the halls of the lower floors. The smoke, the long black lines of hose running up the stairways, and the streams of water that came pouring back, all added to the novelty of the occasion within, while the cordon of smoking, throbbing engines, the armed guards, the roped streets, and patrols of mounted police framed in by the background of a dense crowd of excited people of every class, all combined to form a picture that will not soon be forgotten. Just after the fire began a brisk breeze from the south sprang up, and, while it drove the flames irresistibly along the west hall, it kept them from the south hall, which contained the most valuable collection of objects of historic interest in our country.

THE CRISIS OF THE FIRE.

Between half past twelve and one o'clock the breeze increased in force and drove the fire around under the roof and through the model-rooms on the corner of Ninth and G streets; and about one o'clock it seemed to spring in one moment through the roof from Ninth to Eighth street, a whole block in length. This was the crisis of the fire. The roofs of the buildings along Ninth and G streets were covered with men wetting the fronts or tearing down awnings over windows and doorways. The flames leaped and curled far over G street, forcing even the hardiest of the firemen to leave the windows and doorways along this front. The intense heat created something like a panic among the people, and they rushed up Ninth and Eighth streets, and along G, toward Seventh, in confused crowds, while the horses were hurriedly hitched to the engine stationed at Eighth street and it slowly retreated up that street to a new position. But the breeze soon moderated, the flaming roof fell in, and thus the great danger that the fire would extend across the street was safely passed.

THE FLAMES STAYED.

At two o'clock the efforts of the firemen began to tell, and soon after it was plain that the destruction would be stayed at the eastern end of the north hall. As soon as this fact was apparent, the clerks, who had been busy in saving the contents of their offices, began at once to replace them, and all night long the faithful employés continued their efforts to repair as far as possible the damage which had been done. The detachments of regular soldiers and marines, as also of the city militia, which were on the ground early in the day and on guard at the various entrances to the building, remained all night, and rendered valuable aid in restoring order and protecting property.

SCENES OUTSIDE THE BUILDING.

During the night the scene outside the building was strange and dramatic. The large crowds had become tired of looking on and had gone to their homes. The splashed and begrimed engines were still in position. Pools of water stood in the gutters and hollows of the pavement around them. Piles of coal and wood were placed near the fire-boxes, and heaps of ashes and cinders bore witness of the energy of their fight with the flames. On each front of the building one or more engines was still at work, sending streams of water over the walls and along the uninjured part of the roof to the still smoldering embers of the burned model-rooms, and their hum was the only sound that broke the deep stillness of the night. Smoke and oil stained firemen stood around the working engines, near which groups of curious people still lingered to watch the tireless energy of these marvelous machines. The sentinel paced his round, and hasty messengers passed in and out at the various entrances, and the bright moon shone over the roofless walls and through the blackened window-spaces, producing an effect like that of looking on some ruin from a distant land that had been quickly and strangely transferred into the midst of this quiet city.

INSIDE THE BUILDING AT NIGHT.

Inside the building, the scenes were weird in the extreme. Lines of tallow-dips, the yellow flames of which flared and swayed as each passing person disturbed the stillness of the air, gave gloomy and fitful light to the long corridors. Workingmen stood ankle-deep in water, sweeping it along toward the stairways, down which it poured in torrents. Water dripped and splashed from the ceilings in the offices, in which books, desks, and other fixtures had been piled in dry places, while every device that ingenuity could suggest was used to gather and conduct the downfall of water out into the corridors. Men with candles hurried about, jostling each other as they splashed through the flooded halls, each intent on his own particular duty. In that part of the building which was uninjured, and in the great entrance-hall on F street, clerks were sorting out books and papers for which they were most responsible, and arranging so as to insure greater safety, while the Secretary and his immediate chiefs, as also the heads of bureaus and divisions, gave general oversight to the whole. Scenes without number, during both night and day, thrilling, amusing, and ludicrous, were constantly occurring to give spice to the vexations that were the necessary consequence of the serious occasion. Toward morning the Secretary and the other officers snatched a little badly-needed repose on the sofas in the rooms in the undisturbed portions of the building, while the clerks, equally tired out, pushed themselves into obscure corners and upon desks, for a few moments sleep. The day dawned on this curious condition of one of the most important of the Departments of the Government; one to which each morning brings the greatest bustle of business

activity, and which deals in a business way with a greater number of the people of this nation than any of the others.

With early morning came crowds of people, drawn together by motives as various as were the types they represented. In the area around the southwest corner of the building people of both sexes and all ages and colors swarmed over the piles of scorched and drenched papers and lithographic copies of drawings which had been thrown out during the night. Numbers of people gathered upon and about the Seventh and F street entrances, seeking admission in order that they might see for themselves the extent of the destruction that had taken place, and their persistence severely taxed the patience of the already overworked officials. In the destroyed model-rooms people could be seen, each one of whom searched with unwearied patience among the piles of *débris* that were yet hot for bits of the destroyed models, or some other object which would serve as a *souvenir* of the fire

Hundreds of men gathered on the walks and in the streets near the two principal entrances "waiting for work!" They hoped and expected that laborers would be needed to remove the *débris* and to assist in making a temporary roof. The eagerness with which they watched every one who went in or came out, and the patience with which they waited long after word had been given out that no more could be employed, told the story of their need.

THE MORNING'S GLOOMY VIEW.

In the morning, the appearance of the interior of the building was most gloomy. The flood of water had no way of escape save by the corridors and stairways, and it ran down these avenues in streams. It had soaked through the thick brick arches composing the ceiling of the second story, and had flooded the offices of the west and north wings on that floor. The rooms occupied by the Commissioner, Assistant Commissioner, Chief Clerk, and other prominent officials of the Patent Office on this floor, suffered severely, as did the Interior Department library-rooms. Desks, books, files, carpets, and all the thousand and one things that go to make up office-fixtures, were piled in the corridors of the uninjured portion of the building. But the same energy that was displayed in moving them out during the excitement the day before soon brought order out of the seeming chaos, and it may be said that the general business of the Department was scarcely interrupted.

THE LOSS.

With returning order came time to sum up the losses of the preceding day. It was found that the Patent Office was almost the only sufferer, aside from the damage to the building. The roof and the model-rooms and contents on the west and north sides were completely destroyed. In these two halls were 87,000 models. Among them were several thousand known as "pending" and "issue" cases. The former are those cases in which the applications are still pending in the examiners' rooms, and the latter belong to that class of cases allowed by the examiners, and still awaiting the payment of the final fees. The loss of these falls on the inventors. The loss of rejected models is not serious. These models, in all cases where they were required, have been returned to the parties furnishing them. Some, which were of use as illustrating mechanics or applied science, have been, from time to time, loaned to schools and seminaries, to be returned if called for. Most of those in the Ninth-street loft, about 12,000 in number, were practically valueless, and were kept only because of the possible injustice that might result if they were disposed of without notice to the applicants. Such notice would involve more clerical labor than the force in the Office could perform. The propriety of breaking them up and selling them for old metal had recently been seriously discussed. Such disposition of them is authorized under section 485, Revised Statutes.

PHOTO-LITHOGRAPHIC COPIES.

The loss by fire and water of photo-lithographic copies of drawings, it is estimated will amount to 40,000 sets, of 150 copies each, or about 600,000 copies in all. This material is to be classed as "stock in hand," and not as "original records." The drawings were copies only, and they can be replaced at an estimated expense of $60,000. Thirty patented drawings, in the class of wood-working machinery, which were in the hands of tracers in the model-rooms, were lost, as were also the models. Many of them can be restored in time from the specifications attached to the original letters-patent, but it will be attended with difficulty, and the exercise of great care and judgment in the designations of figures. Three original patented drawings of different classes of inventions, which were being traced in the model-room to fill orders from attorneys, were destroyed. Two of these, having been traced some three months back for photo-lithographic reproduction, were at once restored by being mounted upon card-board. The remaining drawing can be restored from the model. There were also some ten drawings, specifications, and models destroyed of incomplete applications, they being in the hands of model-draftsmen in the west hall of model-room who were engaged in making drawings therefrom to fill orders. The applicants can be notified of the loss, and requested to furnish new models and specifications, upon receipt of which the Office will resume the work of completing the drawings. Eleven volumes of English patented drawings are missing. Nine of them were known to be in the model-room, and were undoubtedly destroyed. Duplicates have already been ordered from England. Many other minor losses occurred which would require too much space to mention. The total loss cannot be estimated in dollars and cents.

DESERVED COMMENDATION.

No more fitting commendation of the conduct of the various employés, during this most exciting and harassing period, can be made than by quoting from the report of the Commissioner of Patents to the Secretary of the Interior, which high praise has been embodied in a message of the President to both houses of Congress. He says:

"The coolness and energy displayed by Mr. Gardner, principal draftsman, in the management of his force, and care of invaluable records in his charge, merit special commendation. In his division, where no one was allowed to enter except employés of the Office, all the drawings were removed in their portfolios, as

well as all files of rejected applications, and were subsequently restored to their places without loss.

"In fact, the only losses hitherto discovered of books and papers, save by fire, appear to have arisen from the intrusion of unauthorized persons who threw them from the windows or otherwise removed them in apparent wantonness.

"Indeed I cannot speak too highly of the conduct of the officers, clerks, and other employés of this bureau during this most trying emergency. They have made the interests of the Office their own, and by night and day, through fire and flood, have been, with few exceptions, faithful and untiring in their efforts to preserve public property and restore order. From their persistent fidelity it has resulted that through a succession of unlooked-for disasters there has been no delay or disturbance of the business of the Office, except what was occasioned by the absolute want of room in which the work could be done."

THE PATENT OFFICE BUILDING.

When the building was first contemplated, it was the design of the Government that it should be occupied exclusively by the Patent Office, and the funds earned by that Office were appropriated for its creation. The act of July 4, 1836, provided that "the President of the United States cause to be erected on some appropriate site a fire-proof building, with suitable accommodations for the Patent Office," and appropriated $108,000 out of the patent-fund for that purpose. The foundation was laid in the fall of 1836, and is the present building facing F street, minus the Ninth and Seventh street wings. It is 270 feet in length, and 69 feet deep. Both fronts were to be faced with split granite, laid in regular courses, with dressed joints. The body of the building was built of Virginia sandstone and was afterwards painted white. It was the intention of the architects that the grand portico on F, facing Eighth street, should be of magnificent proportions, and a correspondent, speaking of its erection, said that "the proportions were exactly those of the Parthenon at Athens, and that its construction would involve a large portion of the whole expense of the building." This wing or main building was completed and occupied by the Patent Office in the spring of 1840, and cost $122,011.65.

PROUD OF THE NEW STRUCTURE.

The Commissioner of Patents, in his annual report for 1840, speaks of the new building as follows: "The Patent Office building is sufficient for the wants of the Patent Office for many years, but will not allow accommodation for other objects than those contemplated in its erection." But he suggests "that the present edifice admits of such an enlargement as may contribute to its ornament, and furnish all necessary accommodation for the National Institute, and also convenient halls for lectures, should they be needed in the future disposition of the Smithsonian legacy." * * * "The National Gallery is ready for the exhibition of models and specimens, and cases are being prepared to preserve the same against injury or loss by exposure. I am happy to say that the mechanics and manufacturers are improving the opportunity to present the choicest contributions, and from the encouragement given, no doubt is entertained that the hall, considered by some so spacious, will in a short time be entirely filled; presenting a display of national skill and ingenuity, not surpassed by any similar exhibition in the world."

WHO BUILT AND OWNED IT.

This was the feeling which the organization of the Patent Office model-room inspired, not only in the officials of the Office, but in the great masses of the people interested in the arts it created and fostered. It is almost amusing to remember that this glowing description of the place was written when the model-room only occupied at the most about one-fifth of the space required for the recent collection. In these early days, crude as the appliances then were, there is no question but that this building and its gallery were looked upon with great pride, not only by the officials having charge of it, but by the people all over the land having business with it or interested in adding to its construction and adornment.

No less then than now, this building was looked upon as the special property of the inventors of the country. The profits which they added to the income of the Office laid the foundation for it, and, with a just and reasonable pride from that day until this, they have piled up their contributions of both money and material for its support. And who would say that their pride in it was not just and reasonable? And instead of abating with the progress of the age it is on the increase, and it is not too much to say that, if an emergency demanded, the inventive skill of the country would from its own private purse provide the means to repair the damage that has been done, and then go on adding improvements to its construction until it becomes what it was intended to be, a grand temple, a fit monument to the skill, industry, and liberality of the American artisan.

THE BUSINESS DEMANDS MORE ROOM.

Notwithstanding the statement of the Commissioner of Patents in 1840, "that the present building would be ample for the needs of the Patent Office for a long time to come," so rapid was its growth that the same Commissioner, in his report of 1844, says, "The models of patented inventions are crowding so much as to prevent classification. * * There seems to be no alternative but to extend the building," and in each succeeding year thereafter, until 1849, the Commissioner, each year, took occasion to call attention to the necessity for an enlargment of the building, and on the 3d of March of that year, Congress appropriated $50,000 out of the patent fund to begin the east wing, the one fronting on Seventh street. It was completed and occupied in 1852, and cost $600,000, $250,000 of which was taken from the earnings of the Patent Office. Neither this wing nor the original one fronting F street was materially injured by the late fire, and both are believed to be substantially fire-proof.

THE DEPARTMENT OF THE INTERIOR.

The same act which appropriated the $50,000 for the commencement of the east wing, created the Department of the Interior, and transferred the Patent Office from the State Department to it as its most important bureau. Hardly had the east wing been completed and occupied before it became evident that still more room

was necessary to meet the growing demands of the Office for space, and on August 31, 1852, Congress passed an act for the erection of the west wing, along Ninth street, the one in which the fire originated, to correspond with the east wing on Seventh street, and appropriated $150,000 to begin it. Indeed, the entire building was contemplated in this year, and plans made for the present structure. The west wing was completed and occupied in 1856, and cost $750,000. The north wing, along G street, which completed the entire structure, was begun in 1856, and entirely finished in 1867, and cost $575,000. Up to the time of the fire there had been spent upon its construction, repair, and furniture, nearly $3,000,000. A writer, speaking of it just after it was finished, said that it is "a building of grand proportions, massive in construction, and one of the most beautiful structures that could be conceived."

FOUNDATION OF THE AMERICAN PATENT SYSTEM.

Nearly every civilized nation on the globe has provided in a greater or less degree for the encouragement and protection of inventive skill and industry; and for generations exclusive privileges have been granted to the producers of things new and useful in art, science, literature, and mechanics. Upon the experience and practical workings of the various systems of the Old World, our laws and practice have been founded, the English theories entering most largely into them. Prior to the adoption of the Federal Constitution, some of the States, or provincial governments, granted to inventors exclusive privileges, but for obvious reasons these were of little or no value. By act of April 10, 1790, the first American patent system was founded. Thomas Jefferson inspired it, and may be said to have been the father of the American Patent Office. He took great pride in it, it is said, and gave personal consideration to every application that was made for a patent during the years between 1790 and 1793, while the power of revision and rejection granted by that act remained in force. It is related that the granting of a patent was held to be in these early times quite an event in the history of the State Department, where the clerical part of the work was then performed.

JEFFERSON'S GREAT INTEREST IN PATENTS.

It is a matter of tradition, handed down to us from generation to generation by those who love to speak of Mr. Jefferson and his virtues and eccentricities, that when an application for a patent was made under the first act, he would summon Mr. Henry Knox, of Massachusetts, who was Secretary of War, and Mr. Edmund Randolph, of Virginia, who was Attorney-General, these officials being designated by the act, with the Secretary of State, a tribunal to examine and grant patents; and that these three distinguished officials would examine the application critically, scrutinizing each point of the specification and claims carefully and rigorously. The result of this examination was that during the first year a majority of the applications failed to pass the ordeal, and only three patents were granted. In those days every step in the issuing of a patent was taken with great care and caution, Mr. Jefferson seeking always to impress upon the minds of his officers and the public that the granting of a patent was a matter of no ordinary importance. During the year 1791, thirty-three patents were granted, and in 1792 the number was eleven, and in 1793 twenty, making sixty-seven in all under the first statute.

THE FIRST BOARD OF COMMISSIONERS.

The law of 1790, laying the foundation of the system which has grown to such proportions, constituted a tribunal, as before stated, consisting of the Secretary of State, the Secretary of War, and the Attorney-General of the United States, whose duty it was, according to the language of the act, "to grant patents for any such useful art, manufacture, engine, machine, or device as they should deem *sufficiently useful and important.*" This language in the act was held to give this board authority to refuse patents for want of novelty in invention or insufficiency of utility or importance, which authority was, as before remarked, exercised with great rigor.

THE FIRST PATENT LAWS AND THEIR DEFECTS.

The first act required that patents should not be granted for more than fourteen years, and there was no provision for an extension. It required that "a written specification be filed with the Secretary of State containing a description of the article desired to be patented, accompanied with drafts or models, and explanations and models." It also required that the specification should be so particular, and the models so exact, as not only to distinguish the invention or discovery from other things before known and used, but also to enable a workman or other person skilled in the art or manufacture whereof it was a branch, or wherewith it might be nearest connected, to make, construct, or use the same, to the end that the public might have the full benefit thereof after the expiration of the patent term." This law also directed the Secretary of State to furnish copies of any such specification, and to permit any such models to be copied by any person making application therefor. The act also provided for the repeal of any patent obtained surreptitiously or by false suggestion, and that in all suits brought for the repeal of a patent so obtained, the original patent or specifications should be *prima facie* evidence of priority of invention. It provided no remedy for interfering applications, and apart from the thorough inspection it required it was, read by the light of the present practice, exceedingly defective. It was in many respects more equitable to all classes than the law which superseded it. There was no provision for an appeal from the decision of the tribunal above named by the act of 1790, and the strictness with which it exercised its powers was the cause of serious complaint. Inventors contended that these officers exercised arbitrary powers, and that they were, by education and interest, hostile to the classes who sought the benefits of the Patent law.

THE FIRST PATENT FEES.

There is no doubt but that this was true to a greater or less extent, or rather it is true that they reluctantly granted patent privileges from a well-settled conviction that a too liberal exercise of that power would be detrimental to the interests of the country. Mr. Jefferson, however, if not his associates, held to the view that the patent law was not framed to collect revenue, but to encourage the production of something new and useful,

and, therefore, believed in dealing liberally with those to whom patent-rights were granted, and the act of 1790 prescribed the following fees for the granting of patents, which are in striking contrast with those exacted by the act of 1793, which was framed by those who were supposed to favor the classes seeking patent privileges. "For receiving and filing the petition, fifty cents; for filing specifications, per copy sheet containing one hundred words, ten cents; for making out the patent, two dollars; for affixing the great seal, one dollar; for indorsing the day of delivering the same to the patentee, including all intermediate services, twenty cents." When the patent under this act passed the ordeal of the board, it still required the certificate of the Attorney-General and the signature of the President to make it complete. The impetus given to inventive genius by the act of 1790 created interests hostile to the power of revision and rejection which it authorized, and so rapidly did they develop that in 1793, by the act of February 24, this power was destroyed, much to the detriment of the material interests of the country.

HOSTILE INTERESTS CRITICISE MR. JEFFERSON.

Just who drew the act of 1793 is not known, but that it met with Mr. Jefferson's opposition is a matter of history. It is said that he pointed out the consequences which would result from breaking down the barriers thrown around the granting of patents by the act of 1790, and held that the promiscuous granting of exclusive privileges, or "the creation of monopolies," as he called them, in any art or industry, was against the theory of popular government and pernicious in its effects. But the interests which contended for a thorough revision of the original act were too strong for Mr. Jefferson's objections; for at that time, although his patriotism was not questioned nor his motives impugned, he was looked upon as clinging to theories tenaciously, to the detriment of the practical needs and efficiency of the public service. After the act of 1793 became a law, the control of the patent business still continuing in the State Department, the practice which prevailed and the construction which was put upon the law was that the granting of patents under it was a mere ministerial act, and that the term "useful" as used in this act was only in contradistinction to hurtful, injurious, or pernicious. Some contended that this construction by the Department was dictated by a desire to rebuke the authors of the act, and to demonstrate the correctness of the views, as to its effects, expressed by its opponents. But the highest authority that can be reached ascribes it to a disinclination on the part of the Secretary to exercise a power of so great importance where it was not clearly and distinctly granted, and the same authority remarks "that it may be reasonably doubted whether it was the intention of Congress to confer such a power on the Secretary of State alone, since no provision is made by it for an appeal or other remedy for an incorrect decision adverse to the applicant. Besides, any person occupying that station might be supposed as little qualified, by an acquaintance with the appropriate branches of science or of the arts, to decide such questions as any other officer of the Government. And were he to undertake the task of such an examination as would be necessary to a decision in each case, he would have little time for other official duties."

This reasoning is borne out by the entire language of the act, and there can be little doubt that Mr. Jefferson's construction of it, that it took away from him all power of revision, was in strict accordance with its letter and spirit.

DISCRIMINATION IN FAVOR OF AMERICAN CITIZENS.

The act of 1790 made no distinction between citizens of the United States and aliens as to their rights under the patent law, but the act of 1793 refused patents to persons not citizens of the United States. By an act passed April 17, 1800, the law was so amended as to give aliens who had resided two years in this country the same rights as citizens, provided they filed an affidavit with their application, setting forth their desire and inclination to become citizens of the United States. The act of 1793 was in general construction much the same as that of 1790, except that the power of rejection was destroyed, and the duty of granting patents lodged with the Secretary of State alone. It still required, however, the certificate of the Attorney-General as to the correctness of form to be affixed, and also the signature of the President. This statute provided that interfering applications should be submitted to the arbitration of three persons, one of whom was to be chosen by each of the applicants, and the third to be appointed by the Secretary of State. The decision of this tribunal was to be final, and if either party refused to go into arbitration, the patent was to issue to the opposing party. There was no provision for an extension of a patent.

ECCENTRICITIES OF THE FIRST SUPERINTENDENT.

During the years from 1790 to 1802 a single clerk in the State Department performed the work of the Patent Office, and a dozen pigeon-holes contained the entire records. In that year quite a noted scientific gentleman by the name of Dr. Thornton was appointed by Mr. Jefferson to the Office, and he was thereafter styled its "Superintendent." For twenty-six years he was the autocrat of the Patent Office, and some queer stories are related as to his management of its affairs. An official of the Department relates that during his superintendence he conceived himself to be invested with much discretionary power, for he held to the maxim that "the patent law was made solely for the encouragement of authors and inventors, and not to collect revenue." He would therefore exercise his judgment about the payment of fees, the result being, that after his death there was quite a deficit between the amount that was and that which should have been to the credit of the patent fund in the Treasury. His successor, in commenting upon the fact, conveys the impression that it was the liberality with which the doctor dealt with patentees, and not any personal dishonesty on his part which caused the deficit. This lack of system, however, brought about good results, for it created the practice of recording all patents granted, which had never before been done with any regularity, although the law required it. During Dr. Thornton's administration of the Office it was no unusual thing to find the doctor a co-patentee, while he was determining all questions which might arise under the law and the practice which he himself dictated.

DR. THORNTON'S CORRESPONDENCE.

Dr. Thornton took great interest in the Office, and he dictated its action with a power that knew no master. The duties of his position not being onerous, he conducted an extended correspondence upon scientific subjects with the patent officials of the Old World and scientists generally, which he left as a part of the archives of the Office when he died, "as a monument of his fidelity to and interest in the advancement of American mechanics." A story is told of him that during the war of 1812, when the British captured the city of Washington and destroyed the Capitol building, a loaded cannon was trained upon the Patent Office for the purpose of destroying it, and he is said to have put himself before the gun, and in a frenzy of excitement exclaimed, "Are you Englishmen, or only Goths and Vandals? This is the Patent Office, a depository of the ingenuity and inventions of the American nation, in which the whole civilized world is interested. Would you destroy it? If so, fire away, and let the charge pass through my body." The effect is said to have been magical upon the soldiers, and to have saved the Patent Office from destruction.

THE FIRST INVESTIGATION.

A Mr. Jones succeeded Dr. Thornton as Superintendent of the Patent Office, and from 1828 till 1830 administered its affairs. Dr. J. D. Craig succeeded to the position in the last-named year and remained until 1836. The first record of an investigation into the conduct of the officials of the Patent Office was during his administration, when one William P. Elliot, a former employé of the Office, charged Mr. Craig with exercising arbitrary powers in issuing three or more patents for the same invention; with paying no attention to interfering applications, and with failing to keep a record of the applications; with destroying the correspondence of the Office for forty years prior to his tenure, and his total incompetence to discharge the duties of his office. The Secretary of State ordered an investigation into the charges on the 17th of December, 1833, and the testimony offered is of a very amusing character. It demonstrates the fact that Dr. Craig had run the Office to suit himself, regardless of law or custom. The Secretary of State censured the Superintendent, and laid down some plain business rules for the future government of the Office, which, it is said, were strictly followed.

"THE KEEPER OF THE PATENTS."

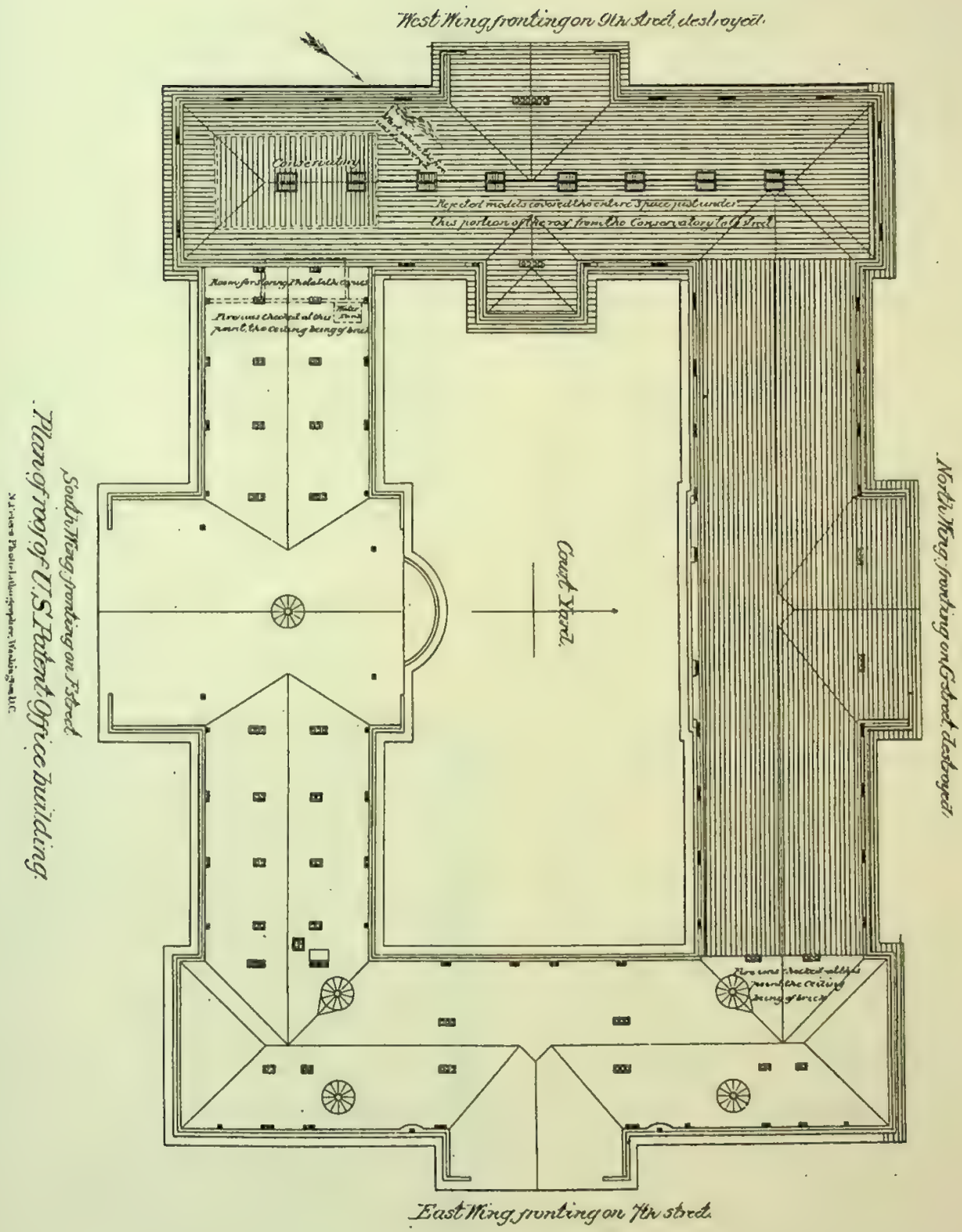
On the 28th of April, 1810, Congress passed an act authorizing the President to erect or procure by purchase a building suitable for the accommodation of the General Post Office, and of the "office of the Keeper of the Patents," in such situation and finished in such manner as the interests of the United States and the safety and convenience of those officers, respectively, and the arrangement of the models in the Patent Office should, in his opinion, require. The sum of $20,000 was appropriated for the purposes expressed in the act, and a building purchased on the site now occupied by the Post Office Department. By act of March 7, 1812, a further appropriation of $9,553.91 was made to repair it. Previous to this time the Patent Office was in the building at present occupied by the War Department, and even at this early day so important a branch of the public service had it become that it was deemed best to provide more space for it. In 1812 it was removed to a building standing on the site occupied by the present Post Office Department building, where it remained until destroyed by fire in 1836.

PROGRESS OF INVENTION.

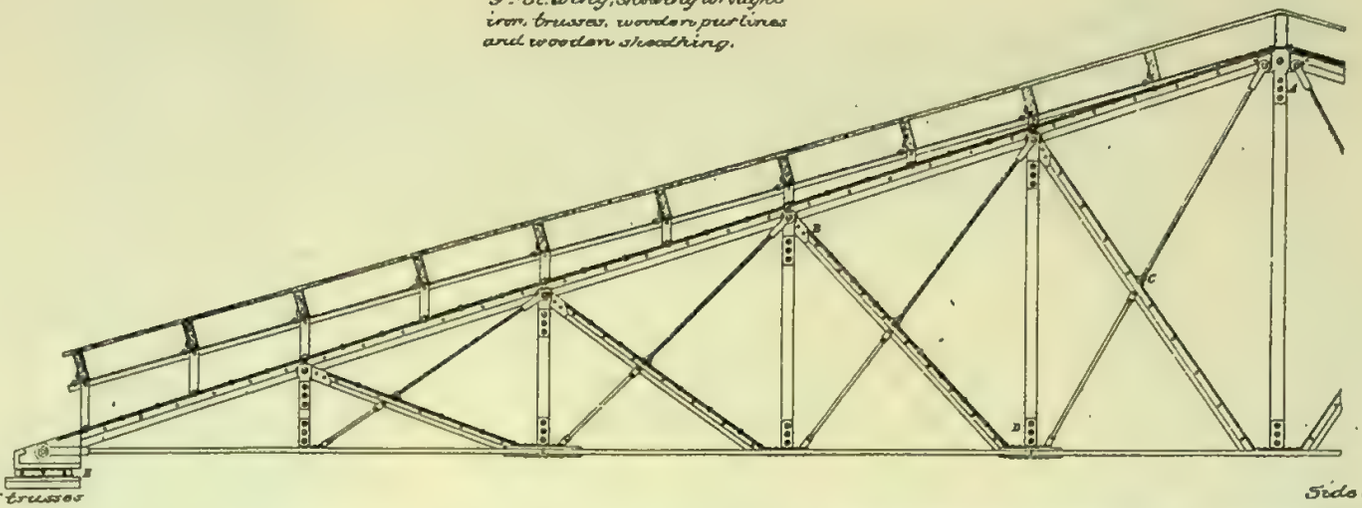
During the years from 1790 to 1812 inventors confined themselves almost wholly to agricultural and commercial objects. Implements for tilling the soil and converting its products and machinery for navigation attracted most attention. Manufactures, except of a purely domestic character for domestic purposes, were hardly known. The arts were poorly understood and little cultivated. The necessities of the new world drove its enterprise into other channels, and its people looked to Europe for manufactured products not directly connected with the necessities of life or demanded by the development of its commerce and agriculture. The war of 1812, however, forced our people to attempt production in many branches of manufacture and industry heretofore almost wholly uncultivated, and the result was the most remarkable development of human ingenuity ever known to any age or country. It is a source of great regret that no well-preserved history of American inventions dating from this time is in existence, and that no classified list of models which were in the Office at the time of the fire in 1836 can be obtained. The earliest date that can be reached is January 21, 1823, and that is only partially complete, but it gives the number in the most important classes as follows:

List of models in the Patent Office January 21, 1823.

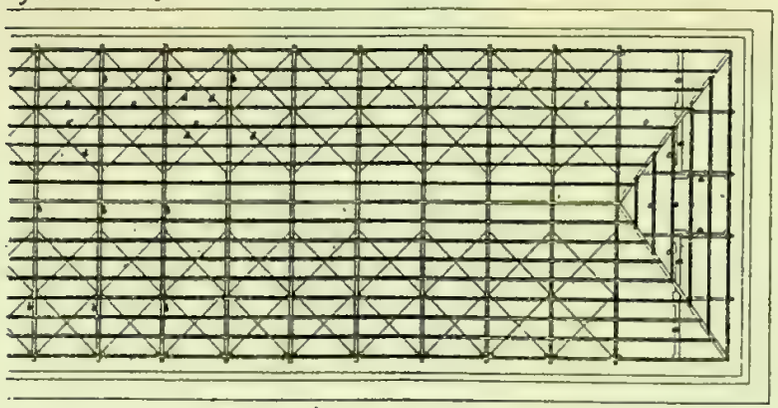
Propelling-boats	38
Carding-machines	8
Making Carriage-wheels	4
Plows	65
Thrashing-machines	20
Winnowing-machines	25
Bridges	13
Saw-mills	26
Water-mills	17
Windmills	7
Water-wheels	26
Pumps	66
Presses	56
Looms	45
Stocking-looms	3
Spinning-machines	28
Fire-engines	10
Steam-mills	14
Nail-cutting Machines	95
Machines for Making Barrels, &c	1
Mud-machines	7
Flax-dressing Machines	6
File-cutting Machines	6
Machines for Cutting Dye-woods	6
Cloth-shearing Machines	16
Straw-cutting machines	10
Boring-machines	3
Locks	12
Guns	2
	635
For various other purposes	1,184
Total	1,819


West Wing fronting on 9th Street, destroyed.
Conservatory
Court Yard.
East Wing fronting on 7th Street.
North Wing fronting on G Street, destroyed.
South Wing fronting on F Street.
Plan of roof of U.S. Patent Office building.

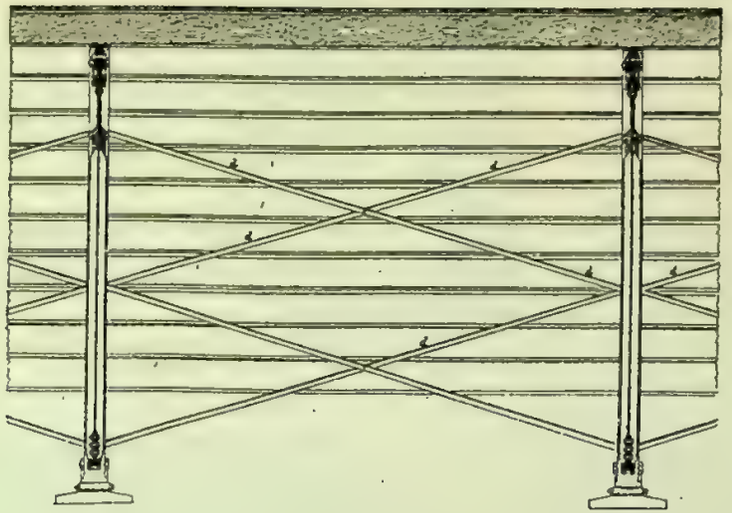
U.S. Patent Office.
Transverse section of roof of 9th St. wing, showing wrought iron trusses, wooden purlines and wooden sheathing.

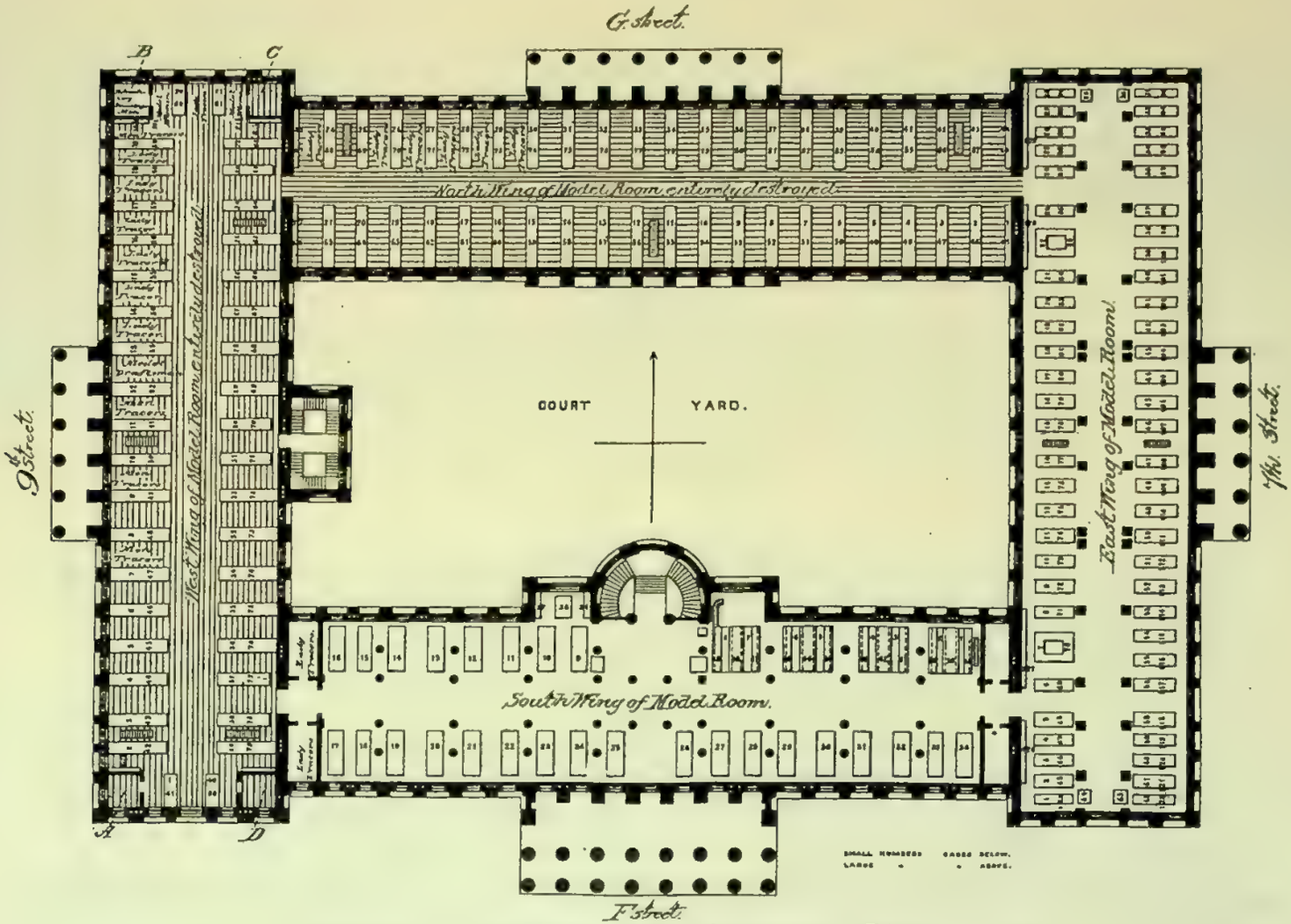


Ground plan of trusses of 9th St. wing.



Side view of spaces between two trusses.

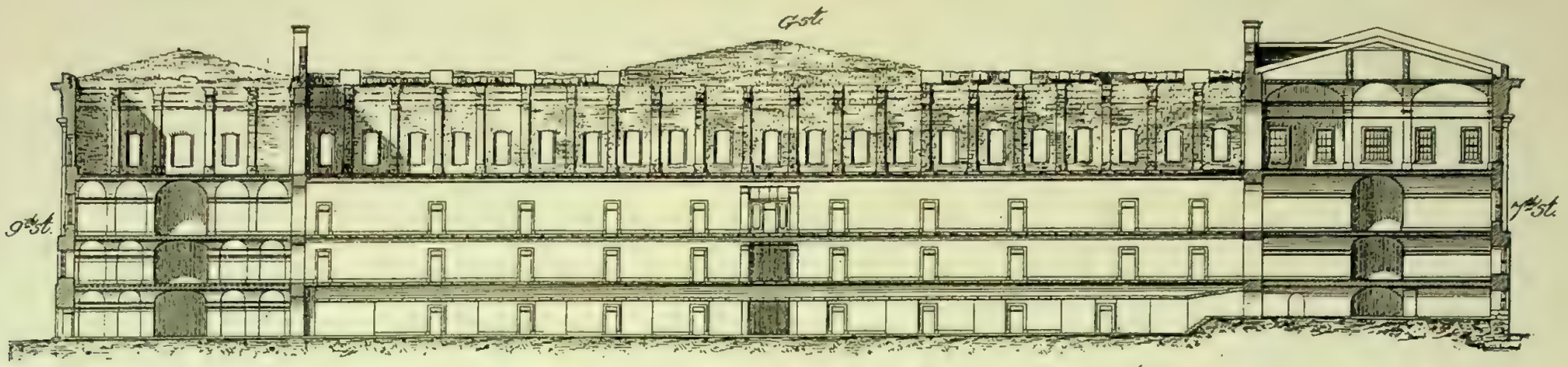




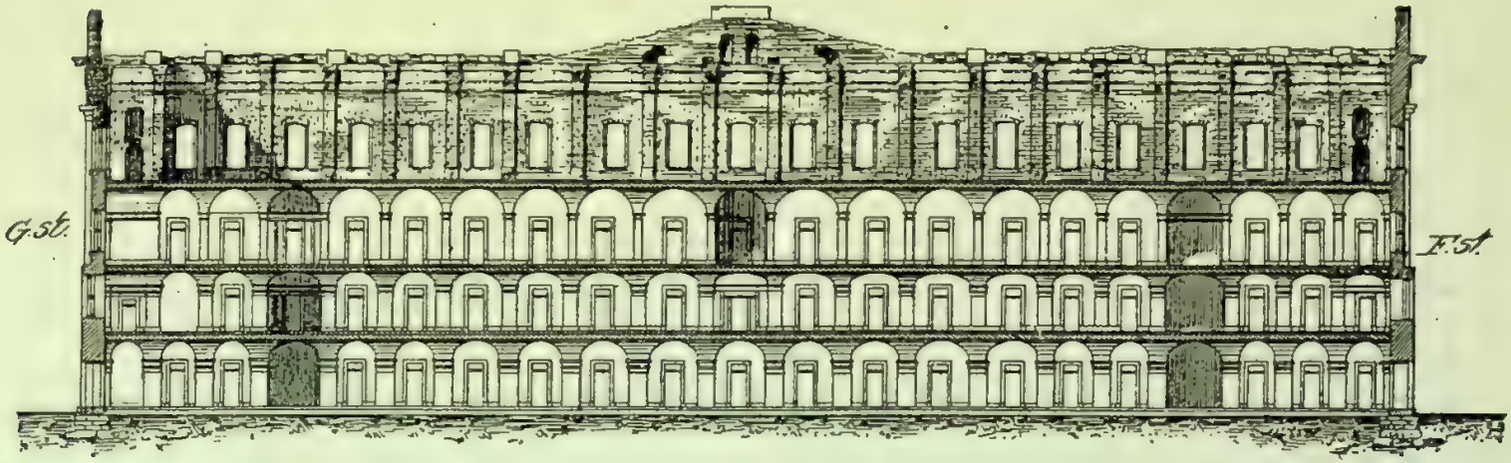
Plan of U.S. Patent Office building.- Model Room,

Showing location of classes as arranged before the fire and space occupied by Tracers, &c.

N. Peters Photo-Lithographer, Washington D.C.



Transverse Section of G street wing. Upper portion representing burned Model Room, as it appears, September 25th 1877.



Longitudinal Section of 9th street wing, Showing location of floors &c.

Upper portion represents burned Model Room.

N. Peters Photo-Lithographer, Washington D.C.

These models were classified as follows:

CLASSIFICATION OF THE MODELS.

I.—*Agriculture.*—Plows; Harrows; Cultivators; Planting, Seeding, Mowing, and Thrashing Machines; Rakes; Wheat-fans; Straw-cutters, &c.

II.—*Factory Machinery.*—For Cotton, Wool, Flax, Hemp, Paper-rolling and Slitting Mills, Nail-cutters, &c.

III.—*Navigation.*—Ships, Boats, Marine Railways, Canal-locks, Mud-machines, Dry-docks, &c.

IV.—*Land Works.*—Railways, Roads, Bridges, Excavating and Boring Machines, Pile-engines, &c.

V.—*Common Trades.*—Brick-making and Planing-machines, Trip-hammers, Bellows, Turning-lathes, Chains, Washing-machines, Household Furniture and Utensils; also, Boots, Shoes, Saddles, Harness, &c.

VI.—*Wheel Carriages.*—Coaches, Chairs, Wagons, Carts, Waywisers, Mail-bags, Boats, &c.

VII.—*Hydraulics.*—Pumps, Fire-engines, Hose-valves, &c.

VIII.—*Calorific and Steam Apparatus.*—Furnaces, Fireplaces, Stoves, Boilers, Stills, Steam-engines, &c.

IX.—*Mills.*—Water and other Wheels, Grist-mills, Saw-mills, and the various parts of their machinery.

X.—*Lever and Screw Power.*—Applied to Printing, Coining, and other Presses.

XI.—*Arms.*—Cannons, Mortars, Muskets, Rifles, Pistols, Percussion, and other Locks, Swords, &c.

XII.—*Mathematical Instruments.*—For Surveying, Mining, and Nautical purposes.

XIII.—*Chemical Compositions.*—Patent Medicines, Cements, Dyes, &c.

XIV.—*Fine Arts.*—Musical Instruments, Paints, Varnishes, Gildings, Sculpture, Architecture, and Gardening.

ABUSES OF THE FIRST LAWS.

From 1790 to the re-organization of the Patent Office in 1836 there were granted 11,348 patents, a large number of which, on account of lack of novelty or usefulness, were valueless, but among them were some of the most important inventions of the age. The abuses which grew out of the promiscuous granting of patents without further inquiry than as to the payment of the fee and the form of the application attracted public attention in the early part of the present century, but it was not until 1836 that opposition to this system was strong enough to invoke congressional action. Early in that year Senator Ruggles of Maine, who was the early champion of a reform of the abuses which the act of 1793 made possible, moved in the Senate for "a select committee of five to take into consideration the state and condition of the Patent Office and the laws relating to the issuing of patents for new and useful inventions and discoveries." The committee was appointed, and on the 28th day of April, of the same year, made an extended report, setting forth the abuses which had grown up as a necessary consequence of the act of 1793, and presented a bill for a re-organization of the Patent Office, which became a law on July 4, 1836.

REPORT OF THE SENATE COMMITTEE OF 1836 ON THE DEFECTS OF THE LAW OF 1793.

Senator Ruggles, in making this report to the Senate, on the 28th of April, 1836, in speaking of the practical operations of this law and its effect upon inventors and the public, says:

"Under the act referred to, the Department of State has been going on, for more than forty years, issuing patents on every application, without any examination into the merits or novelty of the invention. And the evils which necessarily result from the law as it now exists must continue to increase and multiply daily till Congress shall put a stop to them. Some of them are as follows:

A SUMMARY OF THE EVILS.

"1. A considerable portion of all the patents granted are worthless and void, as conflicting with and infringing upon one another, or upon public rights not subject to patent privileges, arising either from a want of due attention to the specification of claim, or from the ignorance of the patentees of the state of the arts and manufactures, and of the inventions made in other countries, and even in our own.

"2. The country becomes flooded with patent monopolies, embarrassing to *bona fide* patentees, whose rights are thus invaded on all sides; and not less embarrassing to the community generally, in the use of even the most common machinery and long-known improvements in the arts and common manufactures of the country.

"3. Out of this interference and collision of patents and privileges, a great number of lawsuits arise, which are daily increasing in an alarming degree, onerous to the courts, ruinous to the parties, and injurious to society.

"4. It opens the door to frauds, which have already become extensive and serious. It is represented to the committee that it is not uncommon for persons to copy patented machines in the model-room; and, having made some slight immaterial alterations, they apply in the next room for patents. There being no power given to refuse them, patents are issued of course. Thus prepared, they go forth on a retailing expedition, selling out their patent rights for States, counties, and townships, to those who have no means at hand of detecting the imposition, and who find, when it is too late, that they have purchased what the venders had no right to sell, and which they obtain thereby no right to use. This speculation in patent rights has become a regular business, and several hundred thousand dollars, it is estimated, are paid annually for void patents, many of which are thus fraudulently obtained.

PIRATED INVENTIONS.

"In this collision and interference of patents, the original and meritorious inventor sees his invention, to the perfection of which he has devoted much time and expense, pirated from him, and he must forego the reward which the law was intended to secure to him in the exclusive right it grants, or he must become involved in numerous and expensive lawsuits in distant and various sections of the country to protect and confirm his rights. If he be wise he will generally avoid the latter and submit to the former alternative of injustice, to which the Government, as the law now is, makes itself accessory. The practice is scarcely less reprehensible of taking out patents for what has been long in public use, and, what every one has, therefore, a right to use. The patentee in such cases being armed

with the apparent authority of the Government, having the sanction of its highest officers, the seal of state, scours the country, and, by threats of prosecution, compels those who are found using the thing patented to pay the patent price or commutation tribute. This exaction, unjust and iniquitous as it is, is usually submitted to.

"The extent of the evils resulting from the unrestrained and promiscuous grants of patent privileges may be imagined when it is considered that they are now issued, since this year commenced, at the rate of more than a thousand a year; a considerable portion of which are doubtless void for want of originality in the inventions patented, either in whole or in some of the parts claimed as new.

"A necessary consequence is that patents, even for new and meritorious inventions, are so much depreciated in general estimation that they are of but little value to the patentee, and the object of the patent laws, that of promoting the arts by encouragement, is in a great measure defeated.

A REMEDY FOR THE EVIL.

"To prevent these evils in future is the first and most desirable object of a revision and alteration of the existing laws on this subject. The most obvious, if not the only means of effecting it, appears to be to establish a check upon the granting of patents, allowing them to issue only for such inventions as are in fact new and entitled, by the merit of originality and utility, to be protected by law. The difficulty encountered in effecting this is in determining what that check shall be, in whom the power to judge of inventions before granting a patent can safely be reposed, and how its exercise can be regulated and guarded to prevent injustice, through mistake of judgment or otherwise, by which honest and meritorious inventors might suffer wrong."

With this history before them and these views of the necessities of the service, the Twenty-fourth Congress framed the act of 1836, which so completely revolutionized the American patent system. The experience of years has demonstrated the value of their work.

THE COMMITTEE'S REPORT ON THE BUSINESS OF THE OFFICE.

In relation to the business of the Office, this report says: "The greatly increasing number of patents granted affords some indications of the improvements which have been going on in the useful arts from year to year. The average number issued annually from 1790 to 1800 was but 26; from 1800 to 1810, the average number was 91; from 1810 to 1820, it was 200, and for the last ten years the average number has been 535. During the year 1835 there were issued 776; and there have been granted in the first quarter of the present year 274, being more in three months than were issued in the whole of the first period of ten years. In the 22 years preceding the war of 1812, the average annual number was 73. The first quarter of the present year indicates an aggregate for the year of 1,096; the amount of the duties on which will be upward of $32,000. The whole number issued at the Patent Office, under the laws of the United States, up to the 31st of March last, is 9,731. This is more than double the number which have been issued either in England or France during the same period. In England, for ten years preceding 1830, the average number of patents granted in one year was 145."

NUMBER OF PATENTS GRANTED EACH YEAR FROM 1790.

The number of patents granted each year from 1790 to July 4, 1836, is as follows:

In 1790, 3; in 1791, 33; in 1792, 11; in 1793, 20; in 1794, 22; in 1795, 12; in 1796, 44; in 1797, 51; in 1798, 28; in 1799, 44; in 1800, 41; in 1801, 44; in 1802, 65; in 1803, 97; in 1804, 84; in 1805, 57; in 1806, 63; in 1807, 99; in 1808, 158; in 1809, 203; in 1810, 223; in 1811, 215; in 1812, 238; in 1813, 181; in 1814, 210; in 1815, 173; in 1816, 206; in 1817, 174; in 1818, 222; in 1819, 156; in 1820, 155; in 1821, 168; in 1822, 200; in 1823, 173; in 1824, 228; in 1825, 204; in 1826, 323; in 1827, 331; in 1828, 368; in 1829, 447; in 1830, 544; in 1831, 573; in 1832, 474; in 1833, 586; in 1834, 630; in 1835, 757; in 1836, 723.

The fees which were the results of this business had accumulated a surplus on January 1, 1837, in the Treasury to the credit of the patent fund over and above all expenses incurred of $156,907.73.

In remarkable contrast to the above results stands the record of business transacted by the Office after its re-organization in 1836. The statement for the period extending from 1837 to 1877 is as follows:

Comparative statement of the business of the Patent Office from 1837 to 1876, inclusive.

Year.	Applications.	Caveats filed.	Patents issued.	Cash received.	Cash expended.	Surplus.	Deficit.
1837	.....	....	435	$29,289 08	$33,506 98	.....	$4,217 90
1838	.....	...	520	42,123 54	37,402 10	84,721 44	.....
1839	.....	.....	425	37,260 00	34,543 51	2,716 49	.....
1840	735	228	473	38,056 51	39,020 67	.....	1,964 16
1841	847	312	495	40,413 01	52,666 87	.....	12,253 86
1842	761	391	517	36,505 68	31,241 48	5,264 20	.....
1843	819	315	531	35,315 81	30,776 96	4,538 85	.....
1844	1,045	380	502	42,509 26	36,244 73	6,264 53	.....
1845	1,246	452	502	51,076 14	39,395 65	11,680 49	.....
1846	1,272	448	619	50,264 16	46,158 71	4,105 45	.....
1847	1,531	553	572	63,111 19	41,878 35	21,232 84	.....
1848	1,628	607	660	67,570 69	58,905 84	8,670 85	.....
1849	1,955	595	1,070	80,752 98	77,716 44	3,036 54	.....
1850	2,193	602	995	86,027 05	80,100 95	6,816 10	.....
1851	2,258	760	869	95,738 61	86,916 93	8,821 68	.....
1852	2,639	996	1,020	112,656 34	95,916 91	16,739 43	.....
1853	2,673	901	958	121,527 45	132,869 83	.....	11,342 38
1854	3,324	862	1,902	163,789 84	167,146 32	.....	3,356 48
1855	4,435	906	2,024	210,459 35	179,540 33	36,919 02	.....
1856	4,960	1,024	2,502	192,588 02	199,031 02	.....	7,343 00
1857	4,771	1,010	2,910	196,132 01	211,582 09	.....	15,450 08
1858	5,364	934	3,710	203,716 16	193,193 74	10,522 42	.....
1859	6,225	1,097	4,538	245,942 15	210,278 41	35,663 74	.....
1860	7,653	1,084	4,819	256,352 59	252,820 80	3,531 79	.....
1861	4,643	700	3,340	137,354 44	221,491 91	.....	84,137 47
1862	5,038	824	3,521	215,754 99	182,810 39	32,944 60	.....
1863	6,014	787	4,170	195,593 29	189,414 14	6,179 15	.....
1864	6,932	1,063	5,020	240,919 98	229,868 00	11,051 98	.....
1865	10,664	1,937	6,016	348,791 84	274,199 34	74,592 50	.....
1866	15,259	2,723	9,450	495,665 38	361,724 28	133,941 10	.....
1867	21,276	3,597	13,015	646,581 92	639,263 32	7,318 60	.....
1868	20,420	3,705	13,378	681,565 86	628,679 77	52,886 09	.....
1869	19,271	3,024	13,986	693,145 81	486,430 78	206,715 03	.....
1870	19,171	3,273	13,321	669,456 76	557,149 19	112,307 57	.....
1871	19,472	3,366	13,033	678,716 46	560,595 08	118,121 38	.....
1872	18,246	3,090	13,500	699,726 39	665,591 36	34,135 03	.....
1873	20,414	3,248	12,864	703,191 77	691,178 98	12,012 79	.....
1874	21,602	3,181	13,599	738,278 17	679,288 41	58,989 76	.....
1875	21,638	3,094	16,288	743,453 36	721,657 71	21,795 65	.....
1876	21,425	2,697	17,026	757,987 65	652,542 60	105,445 05	.....
1877	14,871	2,216	10,416	556,062 18	448,476 44	107,585 74	.....

The figures for 1877 comprehend the operations of the Office from January 1, 1877, to and including September 30, 1877. The rapid increase of the patent business since 1836 can be readily seen by a comparison of the

figures given in the two statements of the business of the Office. From 1790 to 1837, a period of forty-six years, 11,445 patents were granted, yielding a profit to the Office of $156,907.73. From January 1, 1837, to September 30, 1877, a period of about forty-one years, there were issued 192,332 patents, including re-issues, which, together with the other business, placed to the credit of the patent fund on September 30, 1877, $1,099,940.41.

From 1793 to 1868, the moneys earned by the Patent Office were kept as a separate fund in the Treasury, known as "the patent fund." The Commissioner of Patents drew against it for the expenses of his Office, and the surplus, over and above the expenses, was kept intact and credited to this fund, and permitted to accumulate. On July 20, 1868, Congress passed an act "that all money to the credit of the patent fund, or in the hands of the Commissioner of Patents, and all moneys thereafter received at the Patent Office, for any purpose or from any source whatever, shall be paid into the Treasury as received, without any deduction whatever." By this act the accumulation of the profits of the Patent Office for 75 years was turned into the common fund of the Treasury, and appropriations made for its support the same as for the other Departments of the Government. Although a separate account is kept with the Patent Office, there is no fund now intact in the Treasury representing its accumulations and known as "the patent fund."

PROVISIONS OF THE LAW OF 1836.

The committee appointed by the Senate in 1836 presented with its report a bill for the re-organization of the Patent Office, which became a law on the 4th of July of the same year. By this statute the Patent Office was created a bureau of the Department of State, whose chief officer was to be called Commissioner of Patents; he was to be appointed by the President, by and with the advice and consent of the Senate. By the same act a chief clerk of the Patent Office was provided for, who was to have custody of the seal and of the records and models of the Office, and was to perform all the duties of the Commissioner during his absence.

It also provided for an examining clerk at a salary of $1,500 a year, whose duties were the same as those of a principal examiner at present. Two clerks at $1,200 each and one at $1,000 were provided for, and also a machinist at $1,250 and a messenger at $700. The Commissioner and chief clerk were both required to give bonds for the faithful performance of the duties of their office. Under this statute patents were to be issued for a term not exceeding fourteen years, the fee for the same being $30. The patents might be extended for a period of seven years upon payment of an additional sum of $30, if the Secretary of State, the Commissioner of Patents, and the Solicitor of the Treasury, who were by the act appointed a board to hear and decide upon the evidence for or against the extension, should decide favorably. Notice of the extension was to be published in a Washington newspaper, and the board was to sit at the time and place given in the notice. This statute provided nearly the same regulations in relation to specifications, drawings, and models as the original act of 1790. The same oath or affirmation as to the originality of the inventions was also preserved. The most important feature of all was, however, the system of examination into novelty and usefulness which this act provided, and which has had such marked influence upon the patent interests of the country.

THE STATUTE ESTABLISHING A SYSTEM OF EXAMINATION.

This section of the law provided "that the Commissioner shall make, or cause to be made, an examination of the alleged new invention or discovery; and if, on any such examination, it shall not appear to the Commissioner that the same had been invented or discovered by any other person in this country prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication in this or any foreign country, or had been in public use or on sale with the applicant's consent or allowance prior to the application, if the Commissioner shall deem it to be sufficiently useful and important it shall be his duty to issue a patent therefor. But whenever, on such examination, it shall appear to the Commissioner that the applicant was not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new had before been invented or discovered or patented or described in any printed publication in this or any foreign country, as aforesaid, or that the description is defective and insufficient, he shall notify the applicant thereof, giving him briefly such information and references as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new. In every such case, if the applicant shall elect to withdraw his application, relinquishing his claim to the model, he shall be entitled to receive back twenty dollars, part of the duty required by this act, on filing a notice in writing of such election in the Patent Office, a copy of which, certified by the Commissioner, shall be a sufficient warrant to the Treasurer for paying back to the said applicant the said sum of twenty dollars. But if the applicant in such case shall persist in his claim for a patent, with or without any alteration of his specification, he shall be required to make oath or affirmation anew in manner as aforesaid; and if the specification and claim shall not have been so modified as in the opinion of the Commissioner shall entitle the applicant to a patent, he may, on appeal, and upon request in writing, have the decision of a board of examines, in be composed of three disinterested persons, who shall be appointed for that purpose by the Secretary of State, one of whom, at least, to be selected, if practicable and convenient, for his knowledge and skill in the particular art, manufacture, or branch of science to which the alleged invention appertains, who shall be under oath or affirmation for the faithful and impartial performance of the duty imposed upon them by said appointment. Said board shall be furnished with a certificate in writing of the opinion and decision of the Commissioner, stating the particular grounds of his objection, and the part or parts of the invention which he considers as not entitled to be patented; and the said board shall give reasonable notice to the applicant, as well as to the Commissioner, of the time and place of their meeting, that they may have an opportunity of furnishing them with such facts and evidences as they may deem necessary to a just decision; and it shall be the duty of the Commissioner to furnish to the

board of examiners such information as he may possess relative to the matter under their consideration; and on an examination and consideration of the matter by such board, it shall be in their power, or of a majority of them, to reverse the decision of the Commissioner, either in whole or in part, and, their opinion being certified to the Commissioner, he shall be governed thereby in the further proceedings to be had on such application: *Provided, however*, That before a board shall be instituted in any such case the applicant shall pay to the credit of the Treasury, as provided in the ninth section of this act, the sum of twenty-five dollars, and each of said persons so appointed shall be entitled to receive for his services in each case a sum not exceeding ten dollars, to be determined and paid by the Commissioner out of any moneys in his hands, which shall be in full compensation to the persons who may be so appointed for their examination and certificate as aforesaid."

Under this act the present system of examination was instituted. The machinery which it constituted in case of an appeal being desired from the primary examiner remained in force until March 2, 1861, when Congress passed an act creating a tribunal consisting of three persons, to be known as Examiners-in-Chief. Previous to the establishment of this board it had been the practice of the Office to detail three examiners to perform the work at present devolving upon the board of Examiners-in-Chief. But sometimes persons not connected with the Office were called upon to act as judges in an appeal case. As a new board was organized for each case, there was often a want of harmony among its members regarding rules of proceedure and lack of legal training evident in the decisions reached. When the patent business began to increase rapidly, this system failed to meet the demands of the Office in consequence of the great amount of litigation which arose. Hence the present Board of Appeal was constituted, whose duty it is to hear and determine all questions on appeal from the decisions of the primary examiners.

INTERFERING APPLICATIONS.

The statute of 1836 embodied most of the methods for diposing of interfering applications that are now in force. It also provided for an arrangement and classification of models in the Office, so that they should be easy of access for study and inspection. This statute also laid the foundation for the creation of the present valuable scientific library of the Office, and $1,500 was appropriated for it. Up to the time of the fire, in 1836, $1,000 had been spent upon a few unimportant books, which were all destroyed except a single volume of Repertory of Arts. This is now preserved in the United States Patent Office library as the only existing relic of the conflagration of December 15, 1836.

DISCRIMINATION AGAINST ALIENS.

The statute of 1836 retained the discrimination in favor of American patentees, but they were so modified as to only require a residence of one year, and provided that a subject of Great Britain should pay $500 upon making his application, and for all other foreign applicants the fee was $300. This discrimination was kept up in favor of American inventors until the act of March 2, 1861, abolished it. This law provided that there should be no discrimination against aliens unless the country to which they owed allegiance discriminated against citizens of the United States.

THE CAVEAT SYSTEM.

The law of 1836 created what is known as the caveat system, by which an inventor could, by paying $20, file in the Patent Office a caveat setting forth the design and purpose of his invention, its principal and distinguishing characteristics, and praying for protection of his right until he could mature his invention. This paper was to be filed in the confidential archives of the Office, and when the patent was taken out, the sum of $20 deposited as a fee for filing the caveat was to apply upon the regular fees for issuing the patent.

This section also provided that if within one year from the time of filing the caveat any interfering application should be filed it was the duty of the Commissioner to deposit this specification, drawings, and model in the confidential archives of the Office, and to give notice to the person filing the caveat of such interfering application, and he must within three months mature his patent and file his description, specification, drawings, and models, or lose the benefit of the security which the filing of his caveat gave him. This act continued in force exactly as it was passed until March 2, 1861, when the fee was reduced to $10, as at present, and the refunding of any part of the sum or placing it to the credit of the inventor when application was finally made for a patent, was forbidden.

CONGRESS ASSUMES THE SOLE RIGHT TO EXTEND PATENTS.

The tribunal which was created by Congress (see preceding section under heading, "Provisions of the act of 1836") for the purpose of hearing and determining applications for extension of patents, continued to exercise that power until May 27, 1848, when Congress passed an act which transferred that duty to the Commissioner of Patents alone. The Commissioner had sole authority for the extension of patents until March 2, 1861, when Congress passed an act extending the patent term to 17 years, and providing that a patent thereafter granted should not be extended. Extensions were, however, made after the passage of this law, of patents granted prior to 1861, but upon patents granted after that date it required a special act of Congress in each case for the Commissioner to grant an extension. And it still requires special legislation to secure an extension.

THE NEW ORGANIZATION.

Soon after the passage of the law of 1836 the Patent Office was re-organized, and Henry L. Ellsworth, of Connecticut, was appointed Commissioner of Patents, J. W. Hand chief clerk, Chas. M. Keller examiner of patents, and Henry Stone draftsman. Thomas Johns had charge of files, records, and preparation of official copies and recording of assignments. John J. Roane was appointed clerk for preparing and recording all patents issued. Hazard Knowles machinist, in charge of models, and Henry Bishop messenger.

This organization of the Patent Office was regarded by many as exceedingly extravagant, although its entire force consisted of eight people. Immediately after its organization the Commissioner set at work fitting up a model-room in an upper room of the old Post Office

building, which was 40 by 80 feet, and the Commissioner spoke of the model-room as "one of the grandest evidences of inventive genius on the globe." The good results of the system of examination established by this act were early manifest, for in the first part of 1836, under the old system, 625 patents were granted, while in the last half of 1836, under the new law, there were only 97. More than two-thirds of all the applications made were rejected for either want of novelty or usefulness.

ANOTHER COMMITTEE REPORT.

After the conflagration of 1836, by which public attention was again directed to the Patent Office, Senator Ruggles, as chairman of the special committee to examine into the extent of the loss by the burning of the Patent Office, said, in relation to this system of examination, "That the provision interdicting the granting of patents for what is not new and original, is the most valuable feature of the act of July last." In the same report, in speaking of the duties of the examiner, he gives the following as the views of the committee as to his duties, and what his qualifications should be:

QUALIFICATIONS OF A GOOD EXAMINER.

"It is his business to make himself fully acquainted with the principles of the invention for which a patent is sought, and to make a thorough investigation of all that has been before known or invented either in Europe or America, on the particular subject presented for his examination. He must ascertain how far the invention interferes in any of its parts with other previous inventions or things previously in use. He must point out and describe the extent of such collision and interference, that the applicant may have the benefit of the information in so shaping or restricting his claim of originality as not to trespass upon the rights of others. The applicant should also be referred to the sources of this information, that he may be able to satisfy himself on the particular points of interference. This frequently leads to a lengthy correspondence, before the applicant can be persuaded that his invention or some rejected part of it is not new. He often employs skillful and persevering counsel to urge and enforce by argument new views of the principles of his invention, who sometimes brings to his aid much mechanical astuteness. The examiner must also see that the specification accords with the drawing, and that the model is in conformity with both.

"An efficient and just discharge of the duties, it is obvious, requires extensive scientific attainments, and a general knowledge of the arts, manufactures, and the mechanism used in every branch of business in which improvements are sought to be patented, and of the principles embraced in the ten thousand inventions patented in the United States, and of the thirty thousand patented in Europe. He must moreover possess a familiar knowledge of the statute and common law on the subject, and the judicial decisions both in England and our own country, in patent cases. This service is important, as it is often difficult and laborious. Here is the first check upon attempts to palm off old inventions for new, or to interfere with the rights of others previously acquired. This is also the source whence the honest and meritorious inventor may look for aid and direction in so framing his specification as that he may be able to sustain his patent when issued and find security and protection against expensive and fruitless litigation.

"Suitable qualifications for these duties are rare, and cannot be obtained without such compensation as they readily command in other employment. It will, undoubtedly, be wise in the Government to affix such salary to this office as will secure the best talent and qualifications. Although an appeal is allowed by law, yet, if a high character is given to it, this will be the best, as it is the most appropriate tribunal for judging of these subjects, and its decisions commanding respect and confidence, there will be but little inclination to take exceptions to its judgment. Thus will be cut off a fruitful source of lawsuits, and our court calendars will cease to be crowded with cases arising out of the interfering rights of patentees. Meritorious inventors will be secure in their rights, and the public relieved from imposition and embarrassment. These are among the first of the objects and merits of the act of last session."

FORCE OF THESE VIEWS IN 1877.

These views are of as much force to-day, in their application to the duties of an examiner, as they were in 1836, and it is not improper to commend here the judgment and foresight of those who uttered them, as well as framed the law upon which the Patent Office has been founded, and upon which all legislation in relation thereto has been built. It is a most creditable monument to their ability and integrity that nearly every essential feature of the law of 1836 is in full force and effect in the administration of the affairs of the Patent Office at the present time.

It has been modified and enlarged in accordance with the growing interest which centered in and about the office, and of course the machinery which it set in motion has been increased and improved in accordance with the ever-changing demands of the age. These improvements are manifold and enter into every branch of public business. What was theory in 1836 is to-day the perfection of practical operation, each part of the machinery being so close and regular in its workings as to cause scarcely a jar in the vast business it transacts.

As a matter of interest to many who are not familiar with the actual work of an examiner under this law, and the existing rules and practice of the office, we proceed briefly to describe it:

After an application for a patent is completed by filing specification, petition, oath, and drawing, the case is sent to the examiner of the class to which it belongs. His duty is to grant or refuse a patent, as may appear right, after due examination. He is required, first, to diligently scrutinize the specification, to determine if is in proper form and suitable language, himself correcting slight inaccuracies in grammar or orthography; and, second, to compare the description of the device in the specification with the drawing and model, as well as with the applicant's statement of the nature of his invention and his specific claims, all of which must agree with one another. If objectionable in form or substance, or if any of the parts named conflict with each other, the attention of the applicant is called to the deficiencies in the first office letter, and he has an opportunity to correct them by amendment.

EXAMINATION RELATES TO BOTH NOVELTY AND UTILITY.

This examination relates to both the novelty and utility of the alleged invention. The latter question is easily disposed of, since, under the rulings of the office and the courts, every invention is considered "useful" if not actually found pernicious or dangerous. It sometimes occurs that a mechanical device is pronounced inoperative and a patent refused, but in such a case the applicant is allowed to file affidavits to the contrary. In fact, if the applicant's faith in the utility of his invention is strong enough to lead him to pay the office-fees, he is thought to be the best judge of this question.

The question of novelty is hard to decide. This is determined by a reference to American and f reign patents, printed scientific works in all languages, and all the information the examiner is able to collect from all sources relating to the art upon which he is especially employed.

The drawings of American patents are arranged by classes for the readiest reference. The English drawings are in bound volumes, with copious indexes and digests. These are kept in the library. In many examiners' rooms are manuscript digests, prepared with great labor, and setting forth the subject-matter of all patents belonging to the particular class under that examiner's special supervision. The library is filled with works on mechanics, and some that relate to every branch of industry.

With all these facilities, which are very imperfectly set forth here, the work of the examiner is intricate and delicate. It is an occurrence most rare for a device to be presented which is in all its features fully anticipated, either in some former patent or printed publication. The question usually turns upon distinctive claims for special features in the device, wherein it is alleged to differ from others of the same kind, and the solution of this question involves the nicest discrimination, both as to mechanical construction and interpretation of language and of law.

APPEALS FROM EXAMINER'S DECISIONS.

After a rejection of his claims, or any part of them, the applicant may amend them, and the new claims are again examined. A second rejection upon the same reference is "final," whereupon the applicant may, if he desires, take an appeal to the Board of Examiners-in-Chief. Should the Board sustain the examiner in his decision, an appeal lies to the Commissioner in person. Should the examiner be reversed, the case is remanded to him for issue.

After rejection by the examiner, the applicant may amend at any time within two years; but if no action is made in that time, the application is considered abandoned.

All applications are examined in the order of their receipt by the examiner. The only exception to this rule are re-issues, extensions, and original applications in which the invention is deemed of special value to the Government, and a request for its speedy examination is made by the head of an Executive Department.

QUALIFICATIONS OF AN EXAMINER IN 1877.

Close study, thorough knowledge of the art, keen discernment, and the highest intellectual training are demanded of the examiner. His decision, if favorable to the patent, is final; if unfavorable, it is liable to withstand the scrutiny of an active attorney who will bend all his energies to have it reversed, of the Board of Appeal, of the Commissioner of Patents, or possibly of the supreme court of the District of Columbia, to all of whom the case may successively be appealed. If he allows the case, and the patent ever gets into litigation, his action may be reversed by a United States court. Every action the examiner makes, every letter he writes, is preserved as part of the record, and he makes none without the possib lity before him of some such review.

THE AMERICAN SYSTEM COMPARED WITH THAT OF OTHER COUNTRIES.

The examination of an application prior to the grant of a patent, and the restriction of the patent to what is new therein, is the essence of the American patent system. The same plan has been recently adopted in a modified form by the government of the Dominion of Canada, and was favorably considered by the World's Patent Congress at Vienna in 1873, and by official representatives of the British and French governments, although it has not yet been adopted in those countries.

Several of the South American republics have patent systems copied mainly from that of the United States, but all these are yet in their infancy.

Until recently German patents were granted only by favor of the crown. A law, based on the English system, was enacted May 25, 1877, and a representative of the German government is now on his way to this country to examine and report upon the operation of our law.

An approximation to the whole number of patents ever issued for mechanical inventions in civilized countries would give, to the United States, 200,000; Great Britain, 100,000; France, 60,000; all other countries together, 12,000; and these numbers give not a bad idea of the industrial progress of the world during the century. A careful investigation will demonstrate that the progress in mechanics has been just about in proportion to number of patents granted.

Of course there are objections, and serious ones, too, that could be urged against the American system, and experience has indicated some important changes, which will no doubt receive the attention of the Commissioner of Patents in his forthcoming report. A careful review of the different systems in operation in the old world, however, demonstrates the fact that our practice produces more favorable results than any other, and is generally more satisfactory to all concerned, besides being more economical.

The English law allows a patent to any one who makes application in due form. The fees for a patent for fourteen years amount to about $800, and to save these fees an inventor usually employs experts to carefully examine the records of English patents. It may happen, however, (and frequently does,) that from two to ten patents are granted to different parties for the same device. Indeed, there is nothing to prevent a person from copying verbatim a patent granted yesterday and procuring a duplicate for himself to-day, as the grant is to the person who "communicates," (and pays the fee,) and not necessarily to the inventor. The own-

ers of patents must establish their rights in the courts before their claims are respected.

In making application for an English patent a specification and an elaborate drawing are required, but no model. The drawings are copied by photo-lithography, (an improvement borrowed from the United States Patent Office within the past year,) and the patent published as soon as granted.

In France applications are published in official form, accompanied by drawings. If a patent is granted the owner pays a tax of 100 francs—say $20—per annum for fourteen years. At the expiration of the patent by lapse of time or failure to pay the tax, it is published for the information of the people, and becomes public property.

The American system requires a model, drawing, and specification with each application, and a fee of $15. This fee pays for the examination, and in return for it the applicant is informed, from the best official data, as to whether his alleged invention is new in whole or in part. If it posseses novelty, he can obtain a patent by the payment of an additional $20, making $35 in all, as the fee for a patent for seventeen years. (When a case is appealed from adverse decision of the examiner there are small additional fees.) The patent is published as soon as granted, and a certified copy of the specification and a photo-lithograph of the drawing sent to every United States court, where it is open to public inspection. Other copies are kept for sale by the Patent Office, and a digest of the case, containing the claims and vital part of the drawing, is published in the weekly OFFICIAL GAZETTE, which is sent free to eight libraries in each congressional district, and is sent to subscribers at $5 per annum.

THE FIRE OF 1836.

On the morning of the 15th of December, 1836, the Post Office building was discovered to be on fire, and, although many of the archives of the General Post Office Department were saved, not a thing was preserved in the Patent Office, save one volume from the library, of little value to any one. There is no graphic description and very little on record of interest in reference to this important event.

Mr. William T. Steiger, who is still living, and was a clerk in the Office, and resided on E street, directly opposite the Patent Office, says that he was awakened about half-past three o'clock in the morning by the information that the Office was on fire. He dressed himself and ran out, and although the fire had evidently been burning some time, only four or five persons were on the ground. He ascended the steps of the Patent Office building and tried to get in at the east door, but could not do it on account of the dense smoke issuing from it. He then made efforts to spread the alarm, running down Pennsylvania avenue, and from there to C street, where the Commissioner lived. When he and the Commissioner returned to the building they made efforts to reach the Patent Office, but the fire had made such progress their attempts were futile, and everything was destroyed.

CAUSE OF THE FIRE.

The Committee on Post Offices and Post Roads submitted, January 20, 1837, a report on the destruction of the Post Office, in which they said that they had examined 32 persons, and that the evidence taken was conclusive that the fire originated in the cellar under the city post-office, but in which room they were unable to say with certainty. They were also unable to charge the fire to any particular cause, although they remarked that the ashes which came from the wood-fires about the building were stored in a pine box holding from 15 to 20 bushels. This box was in a room in which the Patent Office had its winter wood stored. "It is in evidence," the committee remarks, "that a year before, fire had been discovered in this box but had been extinguished before any damage was done." And the committee adds that "it is possible that the fire originated in this box." A correspondent of the "Journal of Commerce" ascribes the cause of the fire to the ash-box, and says:

"These ashes are the perquisites of some of the minor officials, and were gathered in the cellar until they were called for by the purchasers. And when it is remembered that the dry pine wood used for kindling the fires was stored in the same room, there seems to be no necessity for resorting to supposed incendiarism in accounting for the mischief."

REPORT OF THE SENATE COMMITTEE ON THE EXTENT OF THE LOSS.

On the 19th day of December, 1836, on motion of Senator Ruggles, of Maine, a committee of five was appointed to examine and report the extent of the loss sustained by the burning of the Patent Office, and to consider what measures ought to be adopted to repair the loss, and to establish such evidences of property in patented inventions as the destruction of the models and drawings may have rendered necessary for its security. On the 9th of January, 1837, the committee made an extended report in which they say "the Patent Office contained the largest collection of models in the world.

"It was an object of just pride to every American able to appreciate its value as an item in the estimate of national character, or the advantages and benefits derivable from high improvement in the useful arts—a pride which must now stand rebuked by the improvidence which exposed so many memorials and evidences of the superiority of American genius to the destruction which has overtaken them.

RAPID PROGRESS OF AMERICAN INVENTORS.

"The number of models was about seven thousand. Many of them displayed great talent, ingenuity, and mechanical science. The American inventions pertaining to the spinning of cotton and wool and the manufacture of fabrics, in many respects exceed those of any other nation, and reduced so much the expense of manufacture, that the British manufacturers were reluctantly obliged, at the expense of no little national pride, to lay aside their own machinery and adopt our improvements, to prevent our underselling them even in their home market. In this department were the inventions of Browne, Thorpe, Danforth, Couilliard, Calvert, and some others. The beautiful operative model of Wilkinson's machine for manufacturing weavers' reeds by one operation, was considered one of the most ingenious mechanical combinations ever invented. Of this character was Whittemore's celebrated machine for making wool-cards. There were several models of valuable

improvements in shearing and napping cloth, patented to Swift, Stowell, Dewey, Parsons, Daniels, and others.

"In another department were several models of machines for manufacturing cut and wrought nails. The machinery for this purpose, which has reduced so much the price of that important article, was of purely American origin, and was invented by Briggs, Perkins, Reed, Odiorne, and several others.

"The models of improvements in grist-mills, saw-mills, water-wheels, &c., were numerous.

AMERICAN INVENTIONS IN THE USE OF STEAM.

"The application of steam-power to the driving of all kinds of machinery for propelling boats, locomotives, mills, and factories, has brought out a great number of American inventions and improvements, displaying a degree of talent, ingenuity, and science highly creditable to our country. Some of the models in this department were very valuable. America claims the honor (contested, indeed, by England) of the first successful attempt to apply the power of steam to the propelling of vessels. The name of Fulton is associated with one of the noblest efforts of genius and science. It has often been regretted that no model was preserved of his steamboat, which was the first to demonstrate the practicability of making steam subservient to the purposes of useful navigation. There was, however, deposited in the Patent Office a volume of drawings elegantly executed by his own hand, delineating the various parts of the machinery he employed, and embracing three beautiful representations of his steamer making its first triumphant struggle against the opposing current of the Hudson. The steamer was represented passing through the Highlands, and at two or three other interesting points on the river, with a beautiful sketching of the surrounding scenery smiling as it were at the victory which science and art had at last achieved over the power of the winds and the waters, and at the opening era of steam navigation, the benefits of which have since been so widely diffused. It contained also an account of his experiments on the resistance of fluids, and various estimates of the power required to propel vessels of various tonnage and form through the water at a greater or less speed. This volume, which should have been preserved among our choicest archives, shared the fate of everything else in the Office. What sum would be too great to be expended in replacing it?

AGRICULTURAL MACHINERY AND IMPLEMENTS.

"The department of agriculture contained a great number of models of highly useful improvements in the implements of husbandry. The number of inventions which had for their object the advancement of the agricultural interests was about fifteen hundred; those which pertained to navigation were little short of a thousand. The inventions and improvements in factory machinery, and in the various manufactures, were upwards of two thousand. In the common mechanical trades there were as many more. It were vain to attempt to enumerate or classify them within the reasonable space of a report of committee. There was no art or pursuit to which ingenuity and invention had not lent their aid.

"That this great national repository should have received so little consideration heretofore as to be left so long exposed to conflagration, which has at last swept every vestige of it from existence, cannot be too deeply deplored. But the reproach does not rest at the door of the present Congress. The act passed at its first session, re-organizing the Office, containing many important provisions for its management, and the appropriation for erecting a fire-proof building for the accommodation and preservation of the records, models, &c., which is now under construction, attests the interest inspired and the attention devoted to it, though, unfortunately, too late to rescue it from destruction."

REFLECTIONS ON THE USE OF MODELS.

If this statement of the condition of the Patent Office was true in 1836, what might be said for the model-room of the present time? Seven thousand models comprised what was then called the grandest collection in the world. If such solicitude was felt for its welfare when the patent system was just gaining a foothold, what could be said of it at the present day? And how varied and great are the interests affected, and what multitudes are thrilled at the destruction which has overtaken so large a portion of these representatives of American skill and industry.

The 7,000 models of 1836 had expanded to nearly 200,000 in 1877. They were arranged, before the fire, in classes, each class in chronological order. This vast collection illustrated to the eye of the visitor, almost at a glance, the growth of each art. Some of them, such as sewing-machines, harvestors, and the like, were purely original American inventions. This collection was the one thing of all others which foreign visitors were eager to see, and it was universally admired and commended by them. There was nothing equal to it in the world. Besides being a grand example of the progress of American industry, it was a useful school for those who take an interest in mechanics, whether for profit or pleasure. It is in daily use by people of every class who are interested in industrial arts, as a record in which every stage of progress is to be found and opportunities for future improvements indicated.

As to its usefulness there has never been a question, opinions only varying as to the extent of its value for the purpose for which it is used. The intelligence which founded the Patent Office fully appreciated the value of the collection for which the foundation was then laid. The views of the committee upon this subject were fully set forth in a report made by Senator Ruggles, after the fire of 1836, from which the following quotations are made:

"The specifications, models, and drawings are required that, after the patent-term shall have expired, the public may have the benefit of a disclosure of the invention, so full and intelligible that any one can apply its principles to practical use or make the foundation of further improvements.

VALUE OF MODELS.

"It is a still more erroneous idea that no drawings or models of new inventions are of use to the public unless the machinery they represent is susceptible of a practical application to the use designed. Mechanical science, like all others, is matured and perfected by degrees, and by calling to its aid the investigations and ingenuity of various minds. Most inventions are but the foundation of progressive improvements. It is

Interior view of the West Wing of U.S. Patent Office Model Room as it appeared on the morning of Sep. 25th after the fire of Sep. 24th 1877.

N. Peters Photo-Lithographer Washington D.C.

N. Peters Photo-Lithographer, Washington D.C.

Interior View of the North Wing, U.S. Patent Office Model Room, as it appeared Sep. 25th after the fire of September 24th 1877.

necessary to know what has been done in order to know what remains to be accomplished. Every age avails itself of the experience and discoveries of that which has preceded it. Were it otherwise, knowledge would be stationary, and every generation, instead of being wiser than others gone by, would be employed in learning over again what had been acquired before. The drawings and models of even those inventions which are imperfect or incapable of producing the desired effect serve to show how far others have progressed, and either furnish hints for the full accomplishment of the design or as beacons to enable others to avoid fruitless labor and expense. Whoever would attempt to improve the arts must begin where others have left off; hence the model-rooms of the Patent Office were constantly visited by men of genius and science from all sections of the country, and from Europe, where they were able at once to discover how far American invention had gone, and where they frequently derived important hints from inventions and contrivances of apparently but little value.

MODELS INDISPENSABLE FOR THE USE OF PATENT OFFICIALS.

"They would seem, also, to be almost indispensable, in deciding upon new applications for patents, to enable the proper officers to judge of the originality of the invention, and to prevent the issuing of interfering patents. It often requires a very close examination of the principles of a machine, and a careful comparison of models and drawings, to discover how far they interfere with previous inventions. The provision interdicting the granting of patents for what is not new and original is the most valuable feature of the act of July last. But it will be impossible for the Commissioner to administer the law in that particular, according to its intent, without models and drawings of inventions previously patented. The consequence would be, in effect, the restoration of a great portion of the evils of the former system in multiplying conflicting rights, leading to much perplexity and expensive litigation. Much of the ground traveled over in the last forty years would have to be traveled over again before the point could be reached at which we had arrived prior to the late conflagration.

RESTORATION OF LOST MODELS RECOMMENDED.

"The committee therefore believe that it is important to the interest of the country, as well as to the security of individual rights, that measures be immediately adopted to replace, as far as practicable, the records, drawings, and models which have been destroyed. After much inquiry and consideration the committee are satisfied that, notwithstanding the apprehensions and anxiety so generally entertained, a restoration is practicable to a very gratifying extent. The first step must be to procure, for the purpose of being copied and recorded anew, the original patents. In most instances descriptions and specifications of the inventions, and in, perhaps, a sixth or eighth part of the cases, drawings also have been annexed to the patents when granted. Drawings have been attached only when referred to in the specifications. The whole number of patents is a little upwards of ten thousand. It is believed that from six to seven thousand may be obtained for record. Many of the deficient drawings may be obtained from patentees, or may be supplied by the assistance of those whose familiar knowledge of the inventions will enable them, aided by the specifications, to delineate them with much accuracy. Many copies heretofore certified from the record to be used as evidence in the courts will supply others.

MANY MODELS NEED NOT BE REPLACED.

"Of the models, such as were trifling and unimportant, containing no new principle or combination of mechanism, and not useful for any of the purposes before alluded to, it will not be necessary to replace. The whole number of models was about 7,000. It is the opinion of the Commissioner and others most conversant with the subject that 3,000 of the most important can be replaced, which will form a very interesting and valuable collection—less numerous, indeed, but more select, and scarcely less useful, than that which has been destroyed. Some of these would be replaced by voluntary contribution. But the greatest portion of them—even of those whose restoration would be most desirable—the committee are satisfied can only be had by means in the hands of the Government. If it were in the power of the Government to compel patentees to replace the models and drawings lost by its improvidence, it would be an onerous and unjust tax upon those who, by their ingenuity, and at their own expense, built up an institution which, in its connection with manufactures, with agriculture, and even commerce itself, has done much to advance the prosperity of the country. They have paid into the Treasury $156,907.73 more than has been required to meet the expenses of the Office, including the salaries of the officers employed in it; and the committee cannot hesitate in recommending the appropriation of that balance to carry into effect the provisions of the bill which is herewith submitted."

THE LAW OF 1837—DUTIES OF THE COMMISSIONER.

In addition to this report, this committee presented a bill in conformity with their views. This bill became a law on the 3d of March, 1837. It gave any person in possession of a patent issued prior to the 15th of December, 1836, the right to record the same anew in the Patent Office, without charge, together with the descriptions, specifications, and drawings belonging to the same. This law also imposed upon the Commissioner of Patents the duty of obtaining, as far as practicable, copies of patents, specifications, drawings, &c., for the purpose of having them transcribed and recorded. It also gave the Commissioner authority to record any authenticated copy of the original record, specification, or drawing which he could obtain, and he was also permitted under this act to record any drawing produced as a delineation of the invention, if it was re-enforced by an oath and referred to in the specification, even if it was not originally annexed to the patent.

PROVISIONS FOR OBTAINING COPIES OF DESTROYED MODELS AND DRAWINGS.

It made it the duty of the several clerks of the judicial courts of the United States to transmit to the Commissioner a statement of all authenticated copies of patents, descriptions, specifications, and drawings

executed prior to the 15th day of December, 1836, which were on file in his office, and it also made it obligatory on this class of officers to make out and transmit to the Commissioner for record a certified copy of every such patent, description, specification, or drawing as the Commissioner should specially require.

CERTIFIED COPIES TO BE PRIMA FACIA EVIDENCE.

The second section of this act provided that all copies of this record of specifications and drawings certified to by the Commissioner or chief clerk should be *prima facie* evidence of the particulars of the invention and of the patent granted. Therefore, in any United States court, in all cases, copies of the original record of the specifications and drawings would be evidence without proving the loss of the originals. And to compel patentees to record anew, it provided that no patent issued prior to the fire of the 15th day of December, 1836, should be received in evidence in any of the courts of the United States after the 1st of June, 1838, unless it had been recorded prior to that time in the Patent Office, as provided in the first section of the act, and a drawing of the invention, if separate from the patent, verified as aforesaid and deposited in the Patent Office prior to its being offered as evidence; and no assignment of such patent was to be useful as evidence unless it had been recorded anew under the same conditions as prescribed for the original patent. The third section of the act made it the duty of the Commissioner, upon the application of the patentee or other person interested therein, whenever it should appear to him that the patents so applied for had been destroyed by the burning of the Patent Office building on the 15th day of December, 1836, or otherwise lost prior to that time, and which patent was to bear the date of the original, to attach his certificate, showing that it was made and issued pursuant to this act. It made it obligatory, however, upon the patentee to deposit in the Patent Office, before this duplicate patent should issue, copies of the original model, drawings, descriptions, and specifications, duly verified under oath, which copies were to be admissible as evidence and held to protect the rights of the patentee to such extent, and that only, as they would have been protected by the original patent and specification.

DUPLICATE MODELS TO BE OBTAINED.

The fourth section of the act made it the duty of the Commissioner to obtain duplicates of such models as were destroyed by the fire of the 15th December, 1836, as were most valuable and interesting, and whose preservation would be most important to the public; and it appropriated a sum not exceeding $100,000 for that purpose. It also authorized a temporary board of commissioners, composed of the Commissioner of Patents, and to be appointed by the President, to consider and determine the best mode of obtaining models of suitable construction, and also what models should be procured in pursuance of the act. Section 5 provided that whenever a patent should be returned for correction or reissue, and the patentee should desire to have several patents issued for distinct and separate parts of the thing patented, he might do so upon the payment of $30 for each additional patent, but before any one of them should be corrected and reissued a duplicate model and drawing of the thing as originally invented, verified under oath, was to be deposited in the Patent Office. The same section also provided that there should be no improvement made to any patent heretofore granted, nor any new patent be issued for an improvement to any machine, manufacture, or process to any person, nor any disclaimer be admitted to record, until a duplicate model and drawing of the thing originally intended, verified under oath, should have been deposited in the Patent Office.

It also provided that there should be no patent granted for an invention, improvement, or discovery, the model of which shall have been lost, until another model, if required by the Commissioner, should be deposited in the Patent Office. The compensation to be paid for these duplicate models and drawings was to be determined by this board of commissioners, under the limitations and restrictions of the act. The 6th section provided that in all cases, after the passage of this act, duplicate drawings, whenever the case would admit drawings, should be furnished by the applicant and considered as part of his specification.

The 8th section made all applications for improvements, re-issues, &c., subject to the same examination and revision as an original patent, and placed them exactly on the same footing in the Office as though it were a new application for an original patent or improvement. The 10th section gives the Commissioner power to appoint agents in the principal cities of the United States to receive models, specifications, and specimens, and to forward the same to the Patent Office, the transportation of which was to be charged to the patent fund. The 11th section authorized the appointment of an additional examiner and an additional clerk, and authorized the appointment of temporary clerks to carry out the provisions of the act. The last section of the act appropriates all money in the Treasury of the United States prior to July 4, 1836, to the credit of the patent fund, for the payment of the expenses of the Patent Office, and authorized the Commissioner to draw against it for that purpose. Under the provisions of this act the Commissioner began a correspondence with every person who had secured a patent up to the 15th of December, 1836, and in his report for the year 1837 he mentions that "2,000 patents had been restored during the year, and that by the steps he had taken he thought the most valuable records would be restored." In his report for 1837 he also notes the fact that he had nearly completed an alphabetical and classified digest of all the patents granted by the United States up to the time of the fire. This index was afterwards completed, and is the only record of the early transactions of the Office in existence.

The Commissioner, in his report for 1838, speaks of the models and drawings restored as amounting to several thousand, and he seems to have regarded the Office as pretty fairly re-organized in this year, although it was not until 1849 that the restoration of the destroyed models, drawings, &c., authorized by the act above cited was discontinued. Out of the $100,000 appropriated for this purpose, only $88,237.32 was expended. The labor attending this expenditure was very great, and extended over a period of twelve years, during which time the Office was constantly in correspondence with thousands of inventors in different parts

of the country. A few of the most valuable models and drawings destroyed could not be duplicated at any cost, but nearly all that were of importance were restored.

EXAMINER OF INTERFERENCES.

The act of July 8, 1870, remodeled and restated much of the law which had been enacted prior to that date in relation to the granting of patents. It created the office of Assistant Commissioner, as also that of Examiner of Interferences, which officer was to have primary jurisdiction in determining the extent of interfering applications. Prior to the creation of this office each examiner had jurisdiction, and determined interferences in the particular class over which he presided. The Examiner of Interferences hears and determines upon the law and the evidence all cases of interference which arise in the Office. It may be said to be a purely judicial position, and is, perhaps, more strictly so than any other in the Office.

VALUE OF PHOTO-LITHOGRAPHY TO THE PATENT OFFICE.

Perhaps one of the most valuable auxiliaries to the business of the Office, and one of the most important scientific inventions of the age is the system of photo-lithography which it now employs in the reproduction of its records. For years the increasing business of the Office and growing demand for copies of drawings and illustrations seriously taxed the patience and ingenuity of its officials. Patentees and those interested in certain classes of patents were obliged to have tracings or drawings made at large expense, occasioning vexatious delays and a vast amount of hard work. In 1861, during the administration of Mr. D. P. Holloway, an effort was made to reproduce drawings by the common silver print photograph. Before the experiment was fully tried, however, the war so disturbed the patent business that it was discontinued. But from the first issue of July 1, 1869, the Office resumed reproduction by this process, twelve copies of each patent being made. Some of them are still in existence, and, as compared with the present complete and economical system, are great curiosities.

FIRST ATTEMPT AT PHOTO-LITHOGRAPHING.

On January 1, 1870, the person then doing this work made his first attempt at photo-lithographic reproduction. So successful was the effort that on July 1 of the same year the first contract was entered into for reproducing the current issues by this process. Twelve copies of each patent were published on sheets 10 by 15 inches. Applications for these copies increased rapidly, and, although the system was in its infancy, it gave such satisfaction and promised so well for the future that on July 1, 1871, the second contract for this work was entered into, three hundred copies of each patent being ordered on sheets 7¼ by 11, the present size. This number was found to be in excess of the demand and was soon reduced to 150 copies of each patent, which is the number still reproduced. During this year the success of this system was so fully established and the benefits derived, both by the public and the Office, so great, that the reproduction of back work by classes of inventions was instituted, and up to the present time the following full classes have been reproduced:

LIST OF DRAWINGS REPRODUCED.

1. Aeration and Bottling.
2. Apparel.
4. Baths and Closets.
5. Beds.
6. Bee-hives.
7. Beer and Wine.
8. Bleaching and Dyeing.
9. Boats.
10. Bolts, Nuts, and Rivets.
11. Bookbinding.
13. Brakes and Gins.
14. Bridges.
15. Brushes and Brooms.
17. Butchering.
18. Caoutchouc.
19. Carding.
20. Carpentry.
21. Carriages and Wagons.
23. Chemical Miscellaneous.
26. Cloth.
28. Cordage.
29. Crinoline and Corsets.
31. Dairy.
33. Drafting.
34. Driers and Kilns.
36. Electricity.
37. Excavators.
38. Felting and Hats.
40. Files.
42. Fire-arms.
44. Fuel.
45. Furniture.
47. Garden and Orchard.
48. Gas.
52. Gunpowder.
53. Hardware manufacture.
55. Harrows.
56. Harvesters.
58. Horology.
59. Horseshoes
61. Hydraulic Engineering.
62. Ice.
65. Kitchen Utensils.
66. Knitting and Netting.
67. Lamps and Gas-fitting.
68. Laundry.
71. Manures.
72. Masonry.
73. Measuring Instruments.
75. Metallurgy.
76. Metal Working, bending and straightening.
77. Metal Working, boring and drilling.
78. Metal Working, forging, swaging, and riveting.
79. Metal Working, punching, cutting, and shearing.
80. Metal Working, rolling.
81. Metal Working Tools.
82. Metal Working, turning, planing, and milling.
83. Mills.
85. Nails.
86. Needles and Pins.
87. Oils, Fats, and Glue.
88. Optics.
89. Ordnance.
90. Ore.
91. Paint.
92. Paper-making.
93. Paper manufactures.
94. Paving.
96. Plating.
97. Plows.
98. Pneumatics.
99. Preserving Food.
101. Printing.
102. Projectiles.
103. Pumps.
104. Railways, The Way.
105. Railways, (Cars and Interior Fittings.)
106. Railway Cars, (Exterior Mountings and Fittings.)
107. Railway Track and Car Irons and Fittings, manufacture of.
108. Roofing.
111. Seeders and Planters.
112. Sewing-machines.
114. Ships (1) construction.
115. Ships (2) propulsion.
116. Signals.
117. Silk.
118. Spinning.
119. Stabling.
120. Stationery.
124. Stills.
126. Stoves and Furnaces.
127. Sugar.
130. Thrashing.
131. Tobacco.
132. Toilet.
134. Tubing and Wire.
135. Umbrellas and Fans.
137. Water Distribution.
138. Water-wheels.
139. Weaving.
141. Wood-screws.

And the subdivisions of—

Bench-planes.
Bale-ties.
Buttons and Machines.
Combs, &c.

VALUE OF THIS METHOD OF SUPPLYING AND PRESERVING DRAWINGS.

In these classes there are 95,000 patents, a copy of any one of which can be obtained for 25 cents, or in any number exceeding twenty for 10 cents each. Before this system was inaugurated, the average cost would have been $2 per sheet. Recognizing the great value of this class of reproduction, the Office is at present engaged in completing the remainder of the classes, and it is the intention of the Commissioner that they shall be entirely completed during the present year. Then a copy of any patent granted by the United States can be procured promptly, and at the prices before mentioned. The sale of these copies, in addition to being of incalculable benefit to the public, is also a very considerable item in the earnings of the Office, as an average of at least 2,000 copies are furnished each business day of a year, and the number is being steadily increased and will be greatly augmented when the full list of classes is reproduced. But the greatest value of the system is the almost perfect security it gives to the records of the Office in case of fire, a practical illustration of which is furnished by the recent conflagration. The original drawings of the issue of September 4, 1877—some 300 in number—were in the model-room

at the time of the fire for the purpose of identifying the models for classification. They were entirely consumed, as were also the models belonging thereto; and had it not been that they had been reproduced, great loss and annoyance would have been caused to the patentees, the public, and the Office. This reproduction was done at a very small cost, and in fact will return a profit to the Office in the copies sold, besides causing no loss or annoyance to any one. The Office can repair the damage at its leisure, and in the mean time protect all the rights of the patentee. As another illustration of the value of this system, the late fire furnishes this striking example: The following list of drawings in the class of Wood Working, which were in process of being traced by employés in the model-room, preparatory to being photo-lithographed, both models and drawings were destroyed, and the only means at present by which a drawing-record can be restored is from the description as contained in the specifications which were preserved. These the Office must replace at considerable outlay and trouble:

DRAWINGS TO BE REPRODUCED FROM SPECIFICATIONS.

Making Wooden Screws.

No. 6,668. Garside and Betjamann, August 28, 1849.
No. 8,416. Lewis, S., October 7, 1851.

Circular Saw Mills.

No. 14,241. Hurlbut, W. W., February 12, 1856.

Circular Sawing Machines.

No. 37,816. Hughes, H. E., March 3, 1863.
No. 438. Russell, I. D., March 17, 1857.
No. 15,304. Rice, O., July 8, 1856.

Drag Saws.

No. 41,397. Richmond, F. J., January 26, 1864.
No. 56,426. Mac Lennan, D. R., July 17, 1866.
No. 16,883. Scotton, S., March 24, 1857.
No. 17,454. Scotton, S., June 2, 1857.

Head Blocks.

No. 1,074. Baldwin, E., January 31, 1839.
No. 30,623. Dyer, E. G., November 13, 1860.
No. 11,036. Russell, D., June 6, 1854.
No. 11,618. Russell, T. H., August 29, 1854.
No. 2,566. Sheffield, J., April 16, 1842.
No. 3,667. Stetson & Co., July 15, 1844.

Making Lathe.

No. ——. Pierson, W., December 31, 1833.
No. 3,715. Gilman, E. C., August 23, 1844.

Reciprocating Saw Mills.

No. 425. Brown, I., February 3, 1857.
No. 34,942. Burns, W. R., April 15, 1862.
No. 2,444. Cook and Co., February 1, 1842.
No. 6,891. Dugard, T., November 20, 1849.
No. 42,276. Deputy, J. J., April 12, 1864.
No. 42,277. Deputy, J. J., April 12, 1864.
No. 10,130. Frazee, B., October 18, 1853.
No. 2,704. Hammilton, J., July 2, 1842.
No. 3,053. Hamilton, J., April 15, 1843.
No. ——. Naylor T. B., June 2, 1836.
No. 7,325. Parsons, E. H. and S., April 30, 1850.
No. 714. Secor, J., April 28, 1838.
No. 3,858. Stigleman & Co., December 16, 1844.

Of the models destroyed the following classes have been reproduced and can be purchased from the Office for 25 cents each, or 10 cents each for twenty and upward:

DRAWINGS ALREADY REPRODUCED.

Class.		No. of Patents.
1	Aeration and Bottling	1,127
4	Baths and Closets	742
6	Bee-hives	723
10	Bolts, Nuts, and Rivets	41
13	Brakes and Gins	1,200
14	Bridges	625
15	Brushes and Brooms	1,063
17	Butchering	394
20	Carpentry	1,542
21	Carriages and Wagons	5,700
31	Dairy	2,175
37	Excavators	743
40	Files	93
47	Garden and Orchard	1,167
53	Hardware manufacture	158
55	Harrows	901
56	Harvesters	4,050
59	Horseshoes	137
61	Hydraulic Engineering	443
72	Masonry	510
75	Metallurgy	1,500
76	Metal Working, bending and straightening	92
77.	Metal Working, boring and drilling	395
78.	Metal Working, forging, swaging, and riveting	358
79.	Metal Working, punching, cutting, and shearing	366
80.	Metal Working, rolling	288
81.	Metal Working Tools	391
82.	Metal Working, turning, planing, and milling	304
83.	Mills	2,006
94.	Paving	565
97.	Plows	3,286
98.	Pneumatics	1,540
103.	Pumps	2,310
104.	Railways, The Way	2,280
105.	Railways, (Cars and Interior Fittings).	
106.	Railways, (Cars, Exterior Mountings, and Fittings)	5,267
107.	Railway Track and Car Irons and Fittings, manufacture of	153
108.	Roofing	421
111.	Seeders and Planters	3,075
119.	Stabling	891
130.	Thrashing	1,380
131.	Tobacco	769
134.	Tubing and Wire	246
137.	Water Distribution	2,008
138.	Water-wheels	1,280
And the subdivisions of—		
	Bench-planes	252
	Bale-ties	541
	Total	50,231

Printed copies of specifications from November 20, 1866, to date, are also furnished by the Office.

EFFECT OF THE FIRE ON "PENDING" AND "REJECTED" CASES.

The result of the late fire was by no means as disastrous as that of 1836, although twenty times the amount of property was destroyed. In 1836 the model, written, and illustrated records of the Office were all consumed, while very little original was destroyed by the fire of

September 24th except models. Of these there were three distinct classes: the patented, the "pending," and the rejected models. A few words will indicate their value respectively, and the possible results of the loss.

When an application is sent to the examiner, the model goes with it, and is placed, during the pendency of the application, on its proper shelf in his model-cases. So great is the number of applications, however, in some classes, that for a few years past the examiners' cases were overcrowded, and it became necessary, at short intervals, to remove all but the newest models to small rooms in the west hall of the model-room, where they were kept as part of the secret archives of the Office. There they remained until the application was finally disposed of, either by allowance or abandonment. These constitute the class of pending models, of which several thousand were destroyed, a classified list of which is hereafter presented.

Their value is difficult to ascertain. Many of the cases will undoubtedly be rejected, when the models will cease to have value except as curiosities. In case of allowance of any, the inventor will be invited to furnish a new model, which, after careful comparison by the examiner with the specification and drawing, will, if found satisfactory, be placed in its proper case precisely as if it were the original.

The pecuniary loss in these cases falls on the inventor alone. Hard as this may appear, where an expensive model has been destroyed through no fault of his own, there is no law under which he can find relief. He may, however, decline to furnish another model. This, of course, is at his option.

In allowed applications the models, while awaiting payment of the final fee and issue of the patent, are kept in close cases also in the west hall. These belong to the class of "pending" models, but are technically known as "issue" models, and also numbered several thousand. A circular has been sent to each of the inventors, inviting him to furnish a duplicate, on th receipt of which the case will be remanded to the examiner. If he finds the model acceptable, it can be regarded as if original.

The rejected models are referred to and their value fully explained in the estimate of the losses treated of in the first part of this article.

It will be seen that while the aggregate money value of these models is very great, the loss is nevertheless widely distributed, and by no means irreparable.

The questions which arise on the restoration of models and the continuance of the model system involves many conflicting interests, which will doubtless receive a great deal of attention and discussion. Many arguments, both *pro* and *con*, might be presented to sustain different theories advanced, but they are not needed to demonstrate the fact that the subject is an intricate as well as an important one, upon which there is great diversity of opinion. Speculations or arguments, then, as to the value of individual sentiments, or what will or what should be the action of Congress or the recommendations of the Commissioner of Patents, would be of little value here. The questions which this conflagration brings up for settlement must be disposed of after a careful investigation and consideration of all the interests involved. If it should be decided to restore any of the models destroyed, how many, and of what classes, will perhaps be the most delicate question to determine, and one which will call for the exercise of great discretion, care, and judgment. No doubt a large number of the models destroyed would be restored voluntarily by the patentees themselves, for they very generally have an ambition to have their inventions on exhibition, where they can be constantly under the eye of those whose interest in patent matters calls them to a study of the contents of this National Museum of Mechanics for either profit or pleasure. Indeed, the Commissioner is in daily receipt of propositions looking to the restoration of destroyed models, but to all such inquiries there can be but one answer, and that is, that pending legislation by Congress the Office cannot take the subject into consideration, and while there is no objection to receiving duplicates of the models destroyed they can have no legal value whatever or be of any use to the Office or inventor except as exhibits to illustrate the progress of that branch of industry to which they belong.

Every possible effort has been made to preserve and arrange the model-collection undisturbed by the fire, as well as that part of it injured by water or removal, and it has been carefully cared for and placed in as perfect order as the crowded condition of the two uninjured halls, in which it is stored, will admit. The Commissioner has had taken from the débris and carefully preserved as many of the models made of metal as it was possible to gather in a fair state of preservation, and when opportunity offers will have them carefully assorted and cleaned. Many of them are nearly, if not quite, as perfect as before the fire, and it is believed that from 5 to 10 per cent. may yet be identified, and be for all practical purposes as valuable as ever.

The Patent-Office, since its foundation, has earned, over and above its expenses, nearly two millions of dollars, and this amount represents but an insignificant part of the sum it has placed to the credit of the wealth of this nation. This sketch of its operations might be extended almost indefinitely, for the history of the Patent-Office is an important part of the record of the material progress of the land. To follow in minute detail every change which has taken place in its management, or to advance arguments and theories as to its future—which events and the judgment of the power which controls it may decide without foundation—will hardly be expected in an article having for its primary object the placing of an important event in its history in an authentic shape for future reference. Interest in the subject has led, however, to the addition of some historical data and incidents not directly connected with the particular event which made this record necessary. The object sought is to interest all who may chance to look over them, and especially those whose interests or inclination brings them into friendly relations with this important branch of the public service. This bureau deals with a greater number of the people of the country than any other, and its operations affect, directly or indirectly, nine-tenths of the people of this nation. To the arts it has created and fostered, the country owes much of its present development, and it may not be unreasonable to expect that, if sound judgment and discretion dominates in shaping the legislation that the present emergency makes necessary, its future usefulness will be greater even than its past.

EXPLANATION OF THE ILLUSTRATIONS.

The plans, sectional views, &c., of the United States Patent Office building as it appeared before and after the fire of September 24, 1877, herewith presented, will be found an interesting part of the history of that important event. The first is a perspective view of the building as it appeared before the fire, the only inaccuracy being in the steps of the entrance on F street, which were somewhat changed when the street was cut down some years since. The lower figure of this view, showing the Ninth and G street wings, is the only drawing of this portion of the building in existence, and was made especially for this work. The autographic signatures of the officials of the Interior Department and heads of the different bureaus occupying the building at the time of the fire are affixed to this illustration.

The second view minutely shows where the fire first appeared on the roof above the rejected model room, and the exact points on either side where it was arrested.

The third view shows the construction of the roof.

The fourth view shows the location of the various classes in the portions of the model room destroyed, and by reference to the printed lists of models consumed the exact location of the models of the various classes of inventions can be determined.

The fifth are sectional views of the Ninth and G street wings, the upper portion showing the walls of the burned model room. These views also show the construction of this part of the building.

The sixth and seventh views represent the two halls of the model room as they appeared on the morning after the fire. These views are reproduced from drawings made from photographs taken by Mr. L. E. Walker, the photographer of the United States Treasury Department, and convey as perfectly as possible the appearance of the model-room floor on the G and Ninth street wings. The Heliotype views of the exterior and roof of the building are highly commended, as they present a faithful picture of those parts and the shutes erected from the windows on both sides of the burned portions for removing the *debris*, as well as the masses of iron girders, &c., piled around the building. They are not referred to by number, as they are a different class of views from the others and can be readily recognized. The plans of the basement and first and second floors show precisely the location of, and duties performed in, each room at the time of the fire.

The last sketch is of importance as showing by comparison the immense growth of the Patent Office consequent upon the rapid stride of American art and ingenuity within the past thirty years. The whole collection presents, as clearly as may be, the exterior and interior of the building from every point of view which can render anything to satisfy curiosity or give instruction

LIST OF MODELS DESTROYED IN THE WEST HALL, UNITED STATES PATENT OFFICE, BY FIRE, SEPTEMBER 24, 1877.

NOTE.—The figures on the left indicate the number of the case in which the models were kept; those on the right the number of the class. The lesser number in the space occupied by the cases indicates the number of the case on the ground-floor of the model-room, and the greater number the case in the gallery.

West Hall, West Side, Ground Floor.

MODELS IN PENDING ISSUE CASES.

Case.	Class.
1. Grinding-mills	83
1. Clay	25
1. Glass	49
1. Dryers and Kilns	34
1. Lamps and Gas-fittings	67
1. Stoves and Furnaces	126
2. Apparel	2
2. Beer and Wine	7
2. Bleaching and Drying	8
2. Caoutchouc	18
2. Chemical Apparatus and Specimens	23
2. Crinoline and Corsets	29
2. Educational	35
2. Felting and Hats	38
2. Fishing	43
2. Fuel	44
2. Fine Arts	41
2. Games and Toys	46
2. Gas	48
2. Ice	62
2. Jewelry	63
2. Music	84
2. Metallurgy	75
2. Manures	71
2. Ore	90
2. Oils, Fats, and Glue	87
2. Paint	91
2. Printing	101
2. Paper-making	93
2. Plating	96
2. Preserving Food	99
2. Photography	95
2. Stationery	120
2. Toilet	132
2. Umbrellas and Fans	135
3. Brushes and Brooms	15
3. Butchering	17
3. Brakes and Gins	13
3. Bee-hives	6
3. Dairy	31
3. Garden and Orchard	47
3. Harvesters	56
3 Harrows	55
3. Plows	97
3. Seeders and Planters	111
3 Stabling	119
3. Tobacco	131
4. Metal-working	76, 77, 78, 79, 80, 81, 82
4. Sheet Metal	113
4. Wood-working Tools and Machinery	142, 143, 144, 145
4. Builder's Hardware	16
4. Cutlery	30
4. Leather-working	69
4. Boots and Shoes	12
4. Harness	54
4. Hose and Belting	60
4. Trunks	133
4. Clasps and Buckles	24
4. Tanning	129
5. Aeration and Bottling	1
5. Baths and Closets	4
5. Carriages and Wagons	21
5. Governors	50
5. Hoisting	57
5. Journals and Bearings	64
5. Mechanical Powers	74
5. Pneumatics	98
5. Pumps	103
5. Presses	100
5. Steam	121, 122, 123
5. Stone, Lime, and Cement	125
5. Water-distribution	137
5. Water-wheels	138

PATENTED MODELS.

Case.	Class.
6. Carriages and Wagons	21
7. Carriages and Wagons	21
8. Carriages and Wagons	21
9. Carriages and Wagons	21
10. Carriages and Wagons	21
11. Carriages and Wagons	21
12. Carriages and Wagons	21
13. Stone Sawing, Dressing, &c	125
14. Stone Sawing, Dressing, &c	125
14. Glassware, Manufacture and Articles	49
15. Hoisting	57
16. Hoisting	57
17. Hoisting	57
18. Hoisting	57
19. Hoisting	57
19. Ventilating Ships	98
19½. Ventilating Buildings and Cars	98
20. Ventilating Buildings and Mines	98
21. Butchering	17

West Hall, East Side, Ground Floor.

PATENTED MODELS.

Case.	Class.
21½. Brushes and Brooms	15
21½. Apple-parers	65
22. Brushes and Brooms	15
22. Butchering	17
22. Baskets, manufacture of	144
23. Brushes, and Machines for manufacture of	15
24. Hay-tedder	56
24. Smut-mills	83
25. Thrashing-machines	130
26. Presses	100
27. Presses	100
28. Presses	100
29. Tobacco	130
30. Mining	125
31. Mining	125
32. Horse-power	74
33. Mechanical Power	74
34. Journals and Bearings	64
34. Lubricators	64
35. Mechanical Powers	74
36. Mechanical Powers	74

PENDING ISSUE MODELS.

Case.	Class.
37. Furniture	45
37. Kitchen Utensils	65
37. Beds	5
37. Laundry	68
37. Steam	121, 122, 123
38. Dental	32
38. Coffins	27
38. Driers and Kilns	34
38. Drafting	33
38. Electricity	36
38. Fire-arms	42
38. Horology	53
38. Lamps and Gas-fittings	67
38. Measuring-instruments	73
38. Optics	88
38. Ordnance	89
38. Projectiles	102
38. Ships, Construction	114
38. Ships, Propulsion	115
38. Signals	116
38. Surgery	128
39. Bridges	30
39. Cloth	26
39. Cordage	28
39. Carding	19
39. Carpentry	20
39. Excavators	37
39. Hydraulic Engineering	61
39. Masonry	72
39. Paving	94
39. Knitting and Netting	66
39. Railways	104, 105, 106
39. Roofing	108
39. Sewing-machines	112
39. Spinning	118
39. Weaving	139
40. Driers and Kilns	34
40. Lamps and Gas-fittings	67
40. Stove and Furnace	126

West Hall, West Side of Gallery.

PENDING REJECTED MODELS.

Case.	Class.
41. Metallurgy	75
41. Ore	90
41. Chemical Apparatus, (every description)	
41. Beer and Wine	7
41. Ice	62
41. Gas-apparatus	48
41. Manure	71
41. Plating	96
41. Preserving Food	99
41. Paint	91
41. Oils, Fats, and Glue	87
41. Fuel	44
41. Caoutchouc	18
41. Bleaching and Dyeing	8
41. Stills	

PENDING REJECTED MODELS IN SMALL ROOM IN SOUTHWEST CORNER OF WEST HALL GALLERY, INDICATED IN THE DRAWING BY A.

	Class.
Railways	104, 105, 106
Carpentry	20
Masonry	72
Roofing	108
Paving	94
Excavating	37
Hydraulic Engineering	61
Bridges	14

PENDING REJECTED MODELS.

Case.		Class.
41½.	Specimens of Chemicals.	
41¾.	Preserving Food, &c. Specimens.	
41¼.	Ore Specimens.	
41½.	Medical Compounds and other Specimens belonging to Chemical Miscellaneous.	23
42.	Aeration and Bottling	1
42.	Carriages and Wagons	21
42.	Baths and Closets	4
42.	Pneumatics	98
42.	Pumps	103
42.	Water Distribution	137
42.	Water-wheels	138

PATENTED MODELS.

43.	Bridges	14
44.	Hydraulic Engineering	61
45.	Hydraulic Engineering	61
46.	Excavators	37
47.	Excavators	37
48.	Paving	94
49.	Masonry	72
50.	Carpentry	20
50.	Roofing	108
51.	Carpentry	20
52.	Fire-escapes	20
53.	Fences	39
53.	Ladders	20
54.	Fences	39
55.	Fences and Gates	39
56.	Fences and Gates	39
56.	Traction Engines and Wheels	21
57.	Gates	39
57.	Step Ladders	20
57.	Car Wheels and Axles	106
58.	Dairy	31
59.	Dairy	31
59½.	Dairy	31
60.	Dairy	31

West Hall Gallery, Small Room Northwest Corner, indicated on the drawing by B.

PENDING REJECTED MODELS.

Ships' Construction	114
Ships' Propulsion	115
Surgery	128
Coffins	27
Fire-arms	42
Ordnance	89
Printing	101
Stationery	120
Book-binding	11

West Hall Gallery, East Side.

PATENTED MODELS.

61.	Stabling	119
	Dairy	31

West Hall Gallery, Small Room Northeast Corner, indicated on the drawing by C.

PENDING REJECTED MODELS.

	Class.
Bee-hives	6
Dairy	31
Brushes and Brooms	15
Fences	39
Harvesters	50
Plows	97
Stabling	119
Tobacco	131
Chemical Specimens	23
Sewing-machines of the year 1874	10

West Hall, East Side of Gallery.

PATENTED MODELS.

Case.		Class.
61½.	Stabling	119
62.	Stabling	119
63.	Stabling	119
64.	Stabling	119
65.	Brakes and Gins	13
66.	Brakes and Gins	13
66.	Bee-hives	6
67.	Bee-hives	6
68.	Baths and Closets	4
69.	Baths and Closets, (only on bottom shelf)	4

OLD REJECTED MODELS.

69.	Wood-working Tools and Machinery.	
70.	Wood-working Tools and Machinery.	
71.	Wood-working Tools and Machinery.	
72.	Wood-working Tools and Machinery.	
73.	Horology	58
73.	Optics	88
73.	Signals	116
73.	Electricity	36
73.	Measuring-instruments	73
74.	Same as Case 73.	

PENDING REJECTED MODELS.

Case.		Class.
75.	Furniture	45
75.	Kitchen Utensils	60
75.	Laundry	68
76.	Same as Case 75.	
77.	Horology	58
77.	Optics	88
77.	Signals	116
77.	Electricity	36
77.	Measuring Instruments	73
77.	Drafting	33
78.	Metal-working	76, 77, 78, 79, 80, 81, 82
78.	Casting	22
78.	Nails	85
78.	Needles and Pins. Manufacture of	86
78.	Wood-screws. Manufacture of	141
78.	Wire-working	140
78.	Safes	109
78.	Sheet-metal	113
78.	Bolts, Nuts, and Rivets	10
78.	Builder's Hardware	16
78.	Builder's Hardware. Manufacture of	53
78.	Cutlery	30
78.	Locks and Latches	70
79.	Hoisting	57
79.	Mechanical Powers	74
79.	Presses	100
79.	Stone, Lime, and Cement	125
79.	Glass	49
79.	Clay	25
79.	Steam	121, 122, 123
79.	Valves	136
79½.	Mills	83
79¾.	Threshing	130
80.	Metallurgy	75
80.	Ore	80
80.	Chemical Miscellaneous	23
80.	Beer and Wine	7
80.	Ice	62
80.	Glass	48
80.	Manures	71
80.	Plating	96
80.	Preserving Food	90
80.	Paint	91
80.	Oils, Fat, and Glue	87
80.	Bleaching and Dyeing	8
80.	Caoutchouc	18

West Hall Gallery, Small Room, Southeast Corner, indicated on the drawing by D.

PENDING REJECTED MODELS.

	Class.
Fine Arts	41
Knitting and Netting	66
Leather. Machines for operating upon	69
Boots and Shoes	12
Harness	54
Weaving	139
Spinning	118
Sewing-machines	112

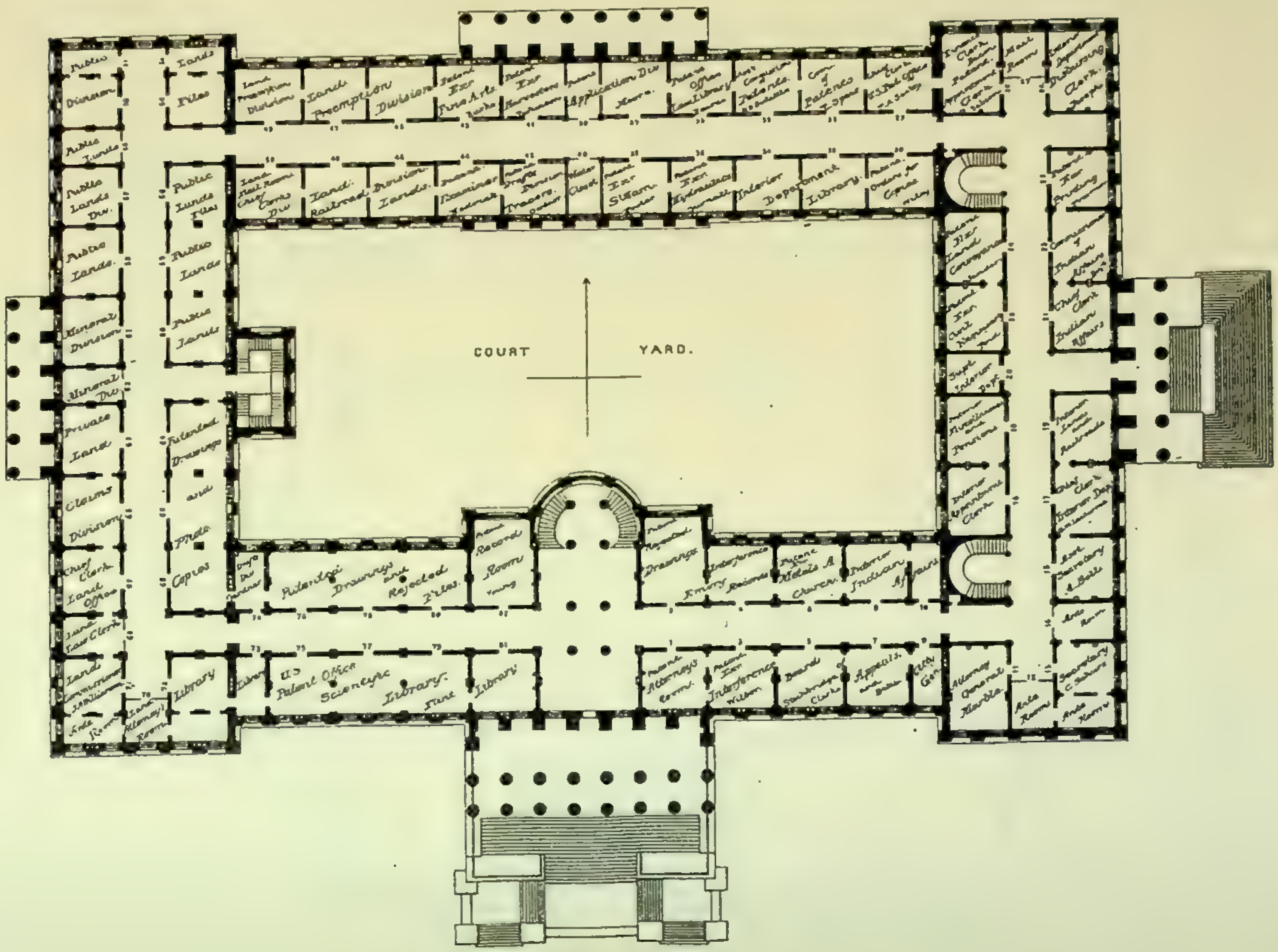
LIST OF MODELS DESTROYED IN NORTH HALL.

NOTE.—The figures on the left indicate the number of the case in which the models were kept; those on the right, the number of the class; all of which are patented models. The lesser number in the space occupied by the case indicates the number of the case on the ground-floor of the model-room, and the greater number the case in the gallery.

North Hall, South Side, Ground-Floor.

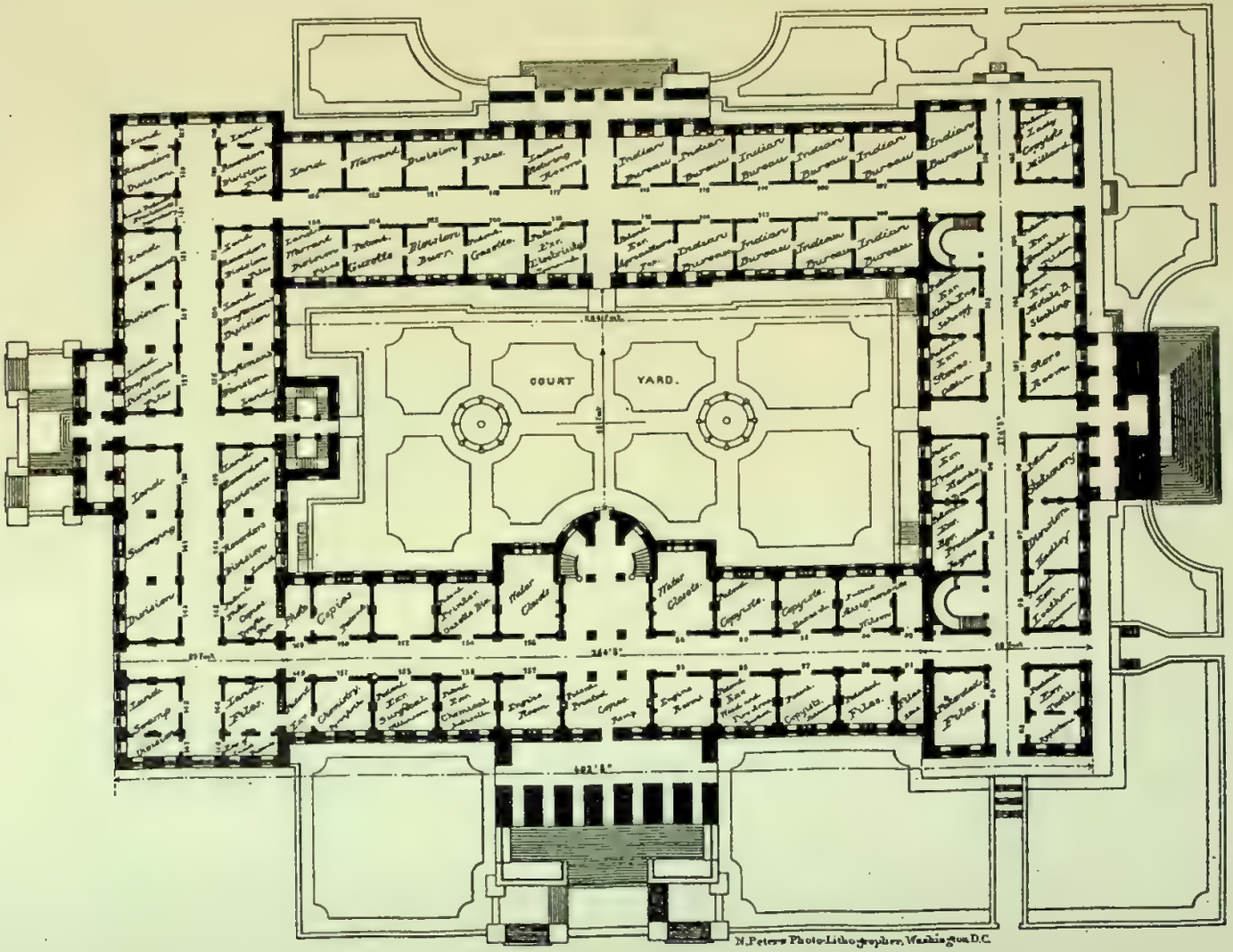
Case.		Class.
1.	Metal-working	
2.	Harrows	55
2.	Drain-plows	97
3.	Cultivators	97
4.	Cultivators	97
5.	Gang-plows	97
6.	Hand-plows	97
7.	Hand-plows	97
7.	Steam-plows	97
8.	Seeding-machines	111
9.	Seeding-machines	111
10.	Seeding-machines	111
11.	Corn-planters	111
12.	Corn-planters	111
13.	Corn-harvesters	56
13.	Hand Seed-planters	111
13.	Hoes and Rakes	47
13.	Corn-stalk Choppers	56
13.	Hand Cultivators	97
14.	Potato-planters	47
14.	Potato-diggers	97
14.	Potato-assorting Machines	97
15.	Grain and Grass Harvesters	56
15.	Flax-pullers	56
15.	Clover-harvesters	56
15.	Cotton-cultivators	97
15.	Cotton-choppers	97
15.	Cotton-pickers	56
16.	Harvesters	56
17.	Harvesters	56

PLAN OF U.S. PATENT OFFICE BUILDING 2ND FLOOR.



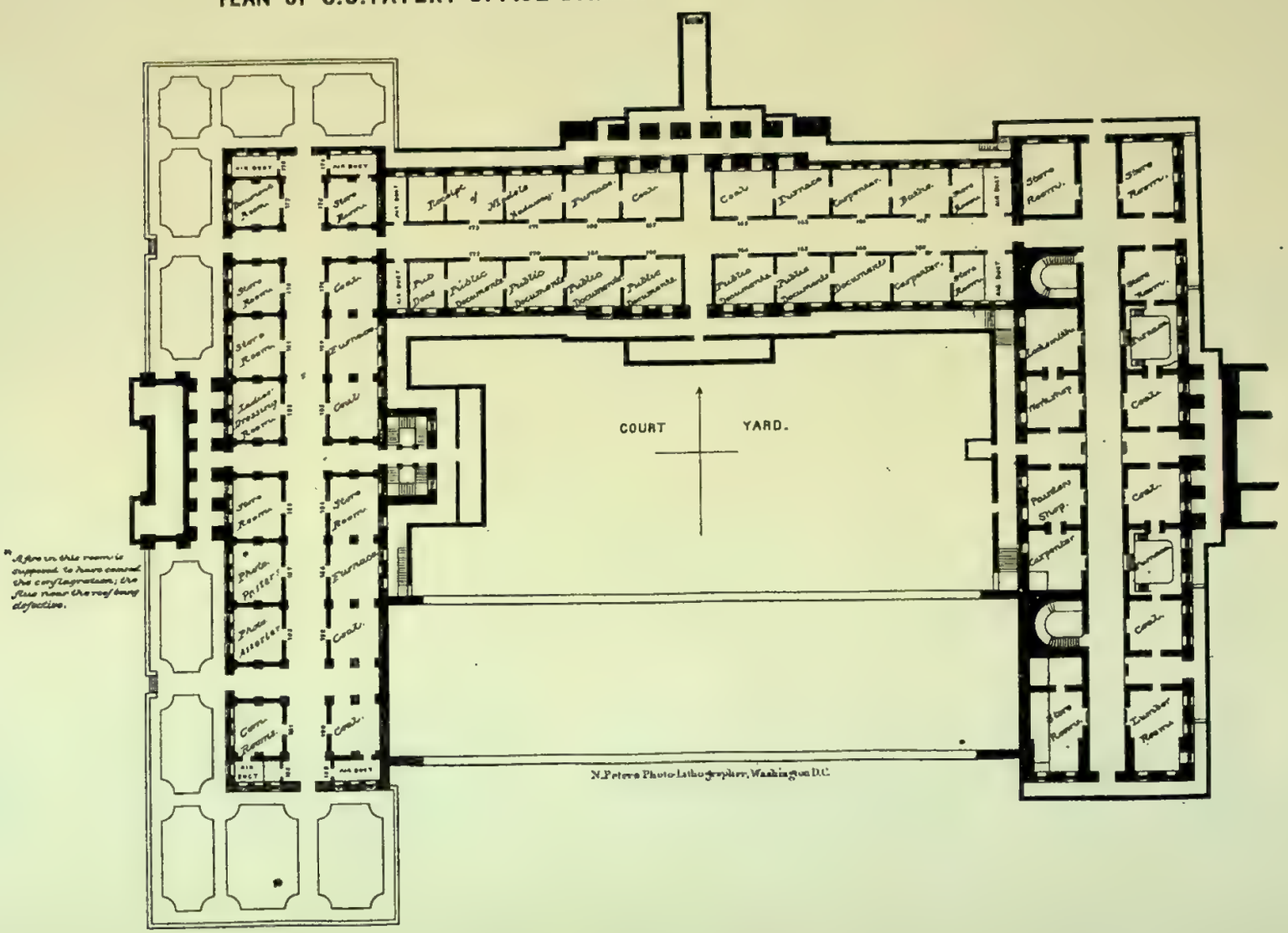
N. Peters Photo-Lithographer, Washington D.C.

PLAN OF U.S. PATENT OFFICE BUILDING 1ST FLOOR.



N. Peters Photo-Lithographer, Washington D.C.

PLAN OF U.S. PATENT OFFICE BUILDING BASEMENT



* Fire in this room is supposed to have caused the conflagration; the flue near the roof being defective.

N. Peters Photo-Lithographer, Washington D.C.

Case.		Class.
18.	Harvesters	56
19.	Harvesters	56
20.	Harvesters	56
21.	Horse Hay-rakes	56
22.	Hay-forks	56
22.	Grain-cradles	56
22.	Scythes	56

North Hall, North Side, Ground Floor.

23.	Grain-cleaners	130
24.	Grain-binders	56
25.	Grain-separators	130
26.	Grain-separators	130
27.	Corn shellers and huskers	130
28.	Ore Amalgamators, Jiggers, Separators, and Washers	90
29.	Metallurgy	75
30.	Metallurgy	75
31.	Casting	22
33.	Metal-working	
33.	Metal-working	
34.	Metal-working and Manufacture of Railway Irons	107
34.	Horseshoes. Manufacture of	59
35.	Metal-working	
36.	Metal-working	
37.	Sheet-metal Working	113
38.	Metal-working	
38.	Files	40
39.	Metal-working	
39.	Tubing and Wire	134
39.	Wire-working	140
40.	Metal-working	
41.	Metal-working	
41.	Needles and Pins	86
42.	Grinding and Polishing	51
43.	Metal-working	
43.	Bird-cages, (belonging to class)	140
44.	Metal-working	

North Hall, South Side of Gallery.

Case.		Class.
45.	Railways	104
46.	Railways	104
47.	Railways	104
48.	Railways	104, 106
49.	Railways	105
50.	Railways	105, 106
51.	Railways	106
52.	Railways	106
53	Railways	105
54.	Railways	105
55.	Railways	105
56.	Water Distribution	137
56.	Pumps	103
57.	Water Distribution	137
57.	Pumps	103
58.	Pumps	103
59.	Pumps	103
60.		103
61.	Water-wheels	138
62.	Water-wheels	138
63.	Pneumatics	98
63.	Aeration and Bottling	1
64.	Pneumatics	98
65.	Pneumatics, (Wind-wheels and Blowers)	98
66.	Pneumatics, (Wind-wheels)	98

North Hall, North Side of Gallery.

Case.		Class.
67.	Garden and Orchard	47
68.	Garden and Orchard	47
69.	Ore Crushing, Grinding, and Stamping	90
70.	Mills, Bark, Cane, Grain, Paint, Sugar, &c	83
71.	Mills, Middlings Separators, Bran Dusters	83
72.	Mills, Flour, Bolts, &c	83
73.	Mills	83
74 to 87 inclusive.	Wood-working Machinery	
88.	Car Springs, Vises, and Railroad Tanks	

SCHEDULE OF THE REJECTED MODELS STORED UNDER THE ROOF OF THE WEST HALL AT THE TIME OF THE FIRE, SEPTEMBER 24, 1877.

West Hall, West Side of Space between the Ceiling and Roof.

Old Rejected Models. (Given in the same relative arrangement in which they were at the time of the fire, commencing at the southern extremity.)

	Class.
Carriages and Wagons	21
Harvesters	56
Garden and Orchard	47
Harrows	55
Plows	97
Seeders and Planters	111
Apparel	2
Crinoline and Corsets	29
Educational	35
Fine Arts	41
Fishing	43
Games and Toys	46
Jewelry	63
Music	84
Photography	95
Toilet	133
Umbrellas and Fans	135
Book-binding	11
Felting and Hats	38
Paper-making	92
Paper Manufacture of	93
Printing	101
Stationery	120
Aeration and Bottling	1
Baths and Closets	4
Pneumatics	98
Pumps	103
Water-distribution	137
Water-wheels	138
Beds	5
Furniture	45
Kitchen Utensils	65
Laundry	68
Boots and Shoes	12
Clasps and Buckles	24
Harness	54
Leather	69
Hose and Belting	60
Tanning	129
Trunks	133
Brakes and Glue	13
Bee-hives	6
Dairy	31
Fences	39
Stabling	119
Tobacco	131
Brushes and Brooms	15
Driers and Kilns	34
Lamps and Gas-fittings	67
Stove and Furnaces	126
Steam	121, 122, 123
Governors	50

West Hall, East Side of Space under Roof.

Old rejected models. (Given in the same relative arrangement in which they were at the time of the fire, commencing at the southern extremity.)

	Class.
Railways	104, 105, 106
Hydraulic Engineering	61
Bridges	14
Carpentry	20
Excavators	37
Masonry	72
Roofing	108
Paving	94
Clay	25
Builders' Hardware	16
Locks and Latches	70
Cutlery	30
Safes	109
Coffins	27
Metallurgy	75
Plating	96
Stills	124
Chemical, Miscellaneous	23
Bleaching and Dyeing	8
Caoutchouc	18
Ore	90
Beer and Wine	7
Oils, Fats, and Glue	87
Ice Machines and Tools	62
Sugar	127
Preserving Food, &c	99
Gas-machines	48
Fuel	44
Mills	86
Thrashers	130
Fire-arms	42
Ordnance	80
Projectiles	102
Boats	9
Ships	114
Ships, Propulsion	115
Dental	32
Surgery	128
Artificial Limbs	3
Carding	19
Cloth	26
Knitting and Netting	66
Sewing-machines	112
Silk, Appliances for working	117
Spinning	118
Weaving	139
Hoisting	57
Presses	100
Journals and Bearings	74
Stone, Lime, and Cement	125

	Class.
Metal-working	76, 77, 78, 79, 80, 81, 82
Railway-track and Car Irons, Manufacture of	107
Wire-working	140
Wood Screws, Manufacture of	141
Sheet-metal	113
Bolts, Nuts, and Rivets, Manufacture of	10
Hardware, Manufacture of	53
Tubing and Wire	134
Casting	22
Files, and Manufacture of	40
Grinding and Polishing	51
Horseshoes, and Manufacture of	59

EXHIBITS.

(On each side of the space between the ceiling and roof, over the west hall, exhibits were spread over the floor and were destroyed.)

SAVED REJECTED MODELS.

The following list of rejected models in the classes noted as destroyed were saved:

Class.
111. Old dates of Cotton-seed Planters.
78. Machines for Upsetting Tires.
78. Machines for Mending Tires.
78. Tire Coolers.
78. Machines for Making Tires.
78. Manufacture of Carriage Axles.
81. Farriers' Tools.
78. Anvils.
76. Machines for Twisting Metals.
10. Nut Locks.
59. Horseshoes, (not machines for making.)
10. Screw Plates and Dies. (Hand.)
10. Screw Taps.
53. Manufacture of Spinning Rings.
53. Manufacture of Metal-cap Tubes.
53. Manufacture of Sewing-machine Shuttles.
141. Wood Screws, (not machines for making.)
85. Picture Nails, (not machines for making.)
85. Wrought Nails and Spikes, (not machines for making.)
85 Cut Nails and Tacks, (not machines for making.)
85. Staples.
113. Machines for Threading Sheet-metal Caps.
23. Eyelet-making Machines.
98. Tuyeres.
98. Air and Gas Engines.
98. Meters—Air, Gas, and Water.

LIST OF MODELS SAVED.

The following is a list of models saved from the classes destroyed in the north and west halls of the United States Patent Office Model Room by the fire of September 24, 1877.

Name.	*Device.*	*Date.*
Samuel Pratt	Screw Nail	Oct. 25, 1853
H. L. Hendall	Wood Screw	Jan. 14, 1859
N. G. Thorn	....do	Mar. 29, 1859
Charles Miller	.... do	Dec. 20, 1859
William H. Nichols	Coffin Screw	July 26, 1859
George R. Wilmot	Screws and Tacks	Apr. 9, 1861
Leonard Marsh	Wood Screw	Oct. 15, 1861
J. A. Ayres	....do	Apr. 14, 1863
E. S. Pierce	Double Screw	Dec. 10, 1867
J. Gardner	Coffin Screw	Oct. 29, 1867
H. J. Harwood	Wood Screw	June 11, 1867
C. T. Grilley	Coffin Pad Screw	July 2, 1867
E. B. Fisher	Nicking Screw Heads	Apr. 23, 1867
S. W. Young	Wood Screw	July 16, 1867
R. J. Nunn	....do	Sept. 3, 1867
P. Bradford	Coffin Screw	Feb. 5, 1867
G. H. Howard	....do	Feb. 19, 1867
J. K. Stockton	Wood Screw	May 6, 1873
H. A. Harvey	....do	Dec. 24, 1867
Do	....do	Nov. 19, 1867
Do	....do	July 9, 1867
James Hooper	Screw Attachment	Apr. 6, 1869
T. C. Richards	Heads for Screws	July 6, 1869
Carl Bocking	Wood Screw	Apr. 6, 1869
J. A. Bidwell	....do	Mar. 23, 1871
D. F. Fetter	Drive Screw	Jan. 10, 1871
A. B. Lipsey	Wood Screw	Mar. 21, 1871
O. D. Barrett	....do	Sept. 30, 1873
J. S. Russell	....do	Dec. 30, 1873
William Bourn	....do	May 13, 1873
Ladd and Corning	....do	Aug. 26, 1873
Bidwell and Chisholm	....do	Jan. 14, 1873
John Frearson	....do	Dec. 9, 1873
S. P. Burdick	....do	Apr. 1, 1873
F. W. Cabot	Coffin Screw	Nov. 16, 1875
Litchfield and Bocklin	Wood Screw	Mar. 30, 1875
Allen Cummings	....do	Mar. 30, 1875
Litchfield and Bocklin	....do	Mar. 30, 1875
H. P. Blake	Wood Screw Cap	Feb. 23, 1875
W. F. Arnold	Knob Screw	Dec. 14, 1875
William M. Smith	Coffin Screw	Sept. 7, 1875
T. J. Sloan	Wood Screw	Aug. 20, 1846
C. T. Griller	Screw	Apr. 20, 1852
C. T. Griller	Capping Wood Screw	Apr. 20, 1852
Kendall and Hunt	Wood Screw	Sept. 28, 1858
Whitney and Wilson	....do	Mar. 30, 1858
George Freeman	....do	Sept. 11, 1860
William G. A. Banwill	....do	Nov. 22, 1864
J. A. Bidwell	....do	May 24, 1864
H. A. Harvey	.... do	Apr. 26, 1864
George L. Morris	Nicking Screw Heads	June 12, 1866
J. W. Bishop	Capping Screw	Nov. 6, 1866
John Absterdam	Wood Screw	Oct. 23, 1866
T. T. Prosser	....do	Sept. 11, 1866
William Weaver	Screws and Bolts	Feb. 13, 1866
George L. Morris	Wood Screw	Nov. 20, 1866
J. Krieg	Piano Wood Screw	Dec. 29, 1868
P. N. Jacobus	Screw	Aug. 4, 1868
F. Washburn	Wood Screw	Dec. 1, 1868
J. A. Bidwell	....do	Feb. 18, 1868
John S. Armstrong	....do	Nov. 12, 1872
William N. Matthews	....do	July 30, 1872
E. S. Wiles	....do	Apr. 30, 1872
F. W. Brooks	....do	Oct. 1, 1872
L. K. Fuller	Wood Screw Washer	Nov. 10, 1874
Moritz Kricks	Stair Carpet Screw	June 23, 1874
H. A. Harvey	Nicking Screw Heads	Sept. 8, 1874
Russell S. Bond	Set Screw	Sept. 5, 1876
A. F. Bradley	Capping Wood Screw	Mar. 14, 1876
Jo. Gobels	Screw Nail	May 30, 1876
C. D. Rogers	Wood Screw	May 30, 1876
T. J. Sloan	....do	June 18, 1876
E. A. Leland	....do	June 6, 1876
H. A. Doty	....do	Feb. 8, 1816
Charles F. Hovey	Screw Thread	Apr. 4, 1876
Van Stone and Howard	Screw Threaded Rod	June 30, 1877
J. Plenkharp	S rows	Mar. 20, 1877
W. L. Hadley	Screw Tap Guide	Nov. 11, 1862
B. T. Loomis	Screw Tap and Reamer	Apr. 17, 1866
Hugh Kerr	Screw Tap	Nov. 11, 1862
Howell and Birdsall	....do	Feb. 9, 1864
Stone and Cole	....do	Dec. 2, 1856
B. F. Bell	....do	Apr. 24, 1866
G. A. Obl	.... do	Jan. 16, 1866
William Manley	....do	May 19, 1868
Clark and Ferrell	....do	Nov. 24, 1868
Walter K. Foster	....do	Oct. 27, 1868
C. L. Fehrenson	....do	Jan. 18, 1870
William Newsham	....do	July 5, 1870
John Gunn	Screw Tap and Cutter	Mar. 12, 1872
William Tucker	Screw Tap	July 16, 1872
J. Cook	....do	Oct. 20, 1874
S. W. Martin	....do	May 16, 1876
C. H. Morgan	....do	Apr. 28, 1874
James Cook	....do	June 21, 1874
S. W. Martin	....do	June 13, 1876
J. J. Grant	....do	Jan. 4, 1876
J. W. Melvin	....do	Nov. 7, 1876
C. G. Curtis	....do	May 2, 1876
S. W. Martin	....do	May 23, 1876
William J. Stevens	....do	May 12, 1863
C. C. Walworth	....do	Oct. 6, 1863
G. C. Snyder	....do	June 9, 1857
Rider and Wiggins	....do	July 9, 1867
William Humphrey	....do	Aug. 17, 1869
James Flower	....do	June 24, 1873
G. H. Fox	....do	May 16, 1871
A. E. Barthel	Screw Tap and Dies	June 10, 1873
Thomas S. Wild	Screw Tap	Mar. 9, 1875
Edward Reynolds	....do	Nov. 23, 1875
J. E. Swett	....do	Aug. 3, 1875
M. C. Johnson	....do	Mar. 20, 1877
J. B. Douglas	....do	Apr. 24, 1877
P. W. Gates	Screw Cutting Dies	May 8, 1847
J. A. Richards	Screw Cutting Dies and Taps.	June 27, 1857
L. Goodfellow	Screw-Cutting Dies	Dec. 6, 1853
S. Goodfellow	....do	July 26, 1859
A. P. Pitkin	....do	May 31, 1859
J. Teachout	....do	June 30, 1857
William and R. Foster	Screw-Tap	Dec. 20, 1859
Peter Hoffuer	Screw Cutting Die	Feb. 8, 1859
William N. Adams	....do	May 5, 1857
Jennings and Swett	....do	Mar. 7, 1865
B. S. Hill	....do	May 2, 1865
William J. Holroyd	....do	Nov. 21, 1865
William Pimlott	....do	Oct. 31, 1865
J. Roberts	.... do	Aug. 29, 1865
E. C. C. Kellogg	....do	May 23, 1865
C. Dreher	....do	Nov. 7, 1865
E. Schenker	....do	July 4, 1865
John Pierce	....do	Jan. 3, 1865
D. McArthur	....do	Dec. 31, 1867
George C. Swett	....do	July 16, 1867
George B. Brayton	....do	Nov. 26, 1867
Young and Hoard	....do	July 16, 1867
Henry Gill	....do	Sept. 3, 1867
Walter Ashton	....do	Aug. 6, 1867
Strayer and Hazelhurst	....do	June 25, 1867
William T. Cole	....do	Aug. 20, 1867
J. K. Nelson	....do	Apr. 9, 1867
James D. Driggs	....do	Oct. 8, 1867

Name.	Device.	Date.
A. Phinney	Screw Cutting Die Holder.	May 16, 1869
James M. Carpenter	Screw Cutting Dies	Mar. 9, 1869
A. Ballauff	do	July 13, 1869
James O. Morse	do	Sept. 28, 1869
T. Shrewsbury	do	Sept. 21, 1869
E. S. Pierce	do	Feb. 23, 1869
A. W. Owen	do	Aug. 10, 1869
John Carroll	do	Oct. 3, 1871
J. J. Grant	do	Oct. 24, 1871
Brown and Gifford	do	Oct. 3, 1871
L. R. Taught	do	May 30, 1871
T. L. Van Doru	do	Dec. 16, 1873
Bates and Murray	do	Apr. 1, 1873
J. J. Grant	do	June 24, 1873
J. W. Hardie	do	Dec. 16, 1873
William E. Ward	do	Jan. 14, 1873
Robert F. Fowler	do	July 29, 1873
T. Gaillard	Turn Buckles	Mar. 18, 1873
George R. Stetson	Screw Cutting Die	Aug. 24, 1875
J. C. Sherman	do	Oct. 5, 1875
F. E. Wells	do	May 4, 1875
Andrew Saunders	do	Nov. 16, 1875
V. J. Reece	do	Sept. 7, 1875
J. J. Grant	do	Aug. 31, 1875
R. C. Nugent	do	Aug. 17, 1875
T. E. Wells	do	Mar. 23, 1875
H. Grilling	do	Apr. 6, 1875
Beddow and Jackson	do	Sept. 28, 1875
George R. Stetson	do	Mar. 2, 1875
V. J. Reece	do	Dec. 7, 1875
N. A. Griffith	do	May 4, 1875
V. J. Reece	do	June 15, 1875
Bishop and Johnson	do	Feb. 13, 1877
J. Hochheimer	do	Mar. 20, 1877
J. Schaub	do	Aug. 21, 1877
J. Flower	do	Apr. 17, 1877
R. C. Fay	do	Jan. 9, 1877
A. J. Smart	do	Jan. 30, 1877
P. McGlew	do	June 10, 1856
E. P. Gleason	do	June 19, 1860
J. Teachout	do	Mar. 27, 1860
Z. L. Jacobs	do	May 15, 1860
F. H. Higgins	do	Jan. 23, 1866
C. C. Walworth	do	Jan. 5, 1864
James Smith	do	Dec. 13, 1864
F. S. Gregg	Screw Cutting Die and Tap.	Aug. 14, 1866
C. G. Cross	Screw Cutting Die	Feb. 20, 1866
M. M. Young	do	June 12, 1866
P. Kennedy	do	Jan. 30, 1866
N. Zeillier	do	July 21, 1866
G. Grubel	Screw Cutting Die and Tap.	Aug. 18, 1868
D. Saunders	Screw-Threading Tube	Apr. 14, 1868
J. S. Dutton	Screw-Plate	Oct. 6, 1868
A. Hovermann	Screw Cutting Die	Sept. 15, 1868
N. Nelson	do	Nov. 1, 1870
J. W. Mahlon	do	Nov. 29, 1870
J. E. Weaver	do	June 14, 1870
Stephen P. M. Tasker	do	July 26, 1870
William T. Cole	do	Dec. 27, 1870
George D. Dean	do	May 19, 1874
George W. Mingus	do	May 31, 1870
Zina S. Ogden	do	Nov. 1, 1870
Alexander Saunders	do	Aug. 25, 1874
Cudworth and Stetson	do	Jan. 25, 1876
F. D. Bliss	do	June 30, 1874
J. M. Carpenter	do	June 6, 1876
H. C. Meyer	do	May 28, 1872
W. W. Clement	do	Oct. 1, 1872
J. B. Doolittle	do	Apr. 28, 1874
J. F. C. Rider	do	Mar. 28, 1876
John S. Campbell	do	June 6, 1876
L. W. Stockwell	do	June 6, 1876
Billings and Price	do	June 11, 1876
J. J. Grant	do	Feb. 22, 1876
D. W. Barnham	do	Dec. 26, 1876
E. Saunders	do	Apr. 25, 1876
W. F. Patterson	Screw Driver	Mar. 23, 1875
Nathan Whitmore	Cop Tube	June 6, 1857
William Cundell	Guard Caps for Spinning	Nov. 10, 1864
James Eaton	Cop Tube	Apr. 13, 1858
Do	Cop Tube Die	June 30, 1855
C. B. Morse	Spinning Ring	Apr. 14, 1868
A. A. Stone	Shuttle Tip Die	Jan. 18, 1870
David L. Hill	Flyer Guides	Jan. 19, 1864
I. Manning	Tension Wheel	June 18, 1872
H. L. Pierce	Spinning Ring	Nov. 18, 1873
Horace Fisher	Knitting Barr	Nov. 10, 1863
A. A. Stone	Spindle Head Die	Jan. 18, 1870
C. E. Trowbridge	Spinning Rings	May 21, 1872
D. W. Hale	Shuttle Die	Jan. 7, 1873
Frank Tully	Spinning Rings	Jan. 7, 1873
C. E. Trowbridge	do	Nov. 26, 1872
Daniel Foxwell	Metal Card Die	Jan. 20, 1874
H. M. Johnson	Spindle Die	Apr. 27, 1875
Forehand and Wadsworth	Spinning Ring	Apr. 13, 1875
R. Crain	Pipe Tongs	Aug. 3, 1869
Daniel C. Stillson	Wrench	Oct. 12, 1869
A. G. Barrett	Pipe Wrench	Jan. 31, 1871
S. F. Gaulgas	Pipe Tongs	May 30, 1865
James Stratton	do	Nov. 14, 1871

Name.	Device.	Date.
M. H. Freeman	Pipe Wrench	May 14, 1867
Charles Pomeroy	do	Nov. 16, 1869
Still-on and Chapman	Pipe Tongs	Oct. 31, 1865
M. Hastings	Pipe Wrench	Aug. 24, 18 9
V. K. McHenry	do	Oct. 12, 1869
W. H. Barwick	do	June 6, 1871
J. S. Hamilton	do	Nov. 7, 1871
W. M. Gray	Bed Key	Dec. 10, 1867
B. F. Bee	Wrench	Feb. 23, 1869
George W. Huntoon	Tap Wrench	Feb. 7, 1871
John W. Close	Pipe Wrench	Feb. 5, 1867
J. S. Ordner	do	May 28, 1867
A. Noyes	Machine for Making Tires.	Apr. 4, 1849
Maria, Vaughn, administratrix of J. C. Vaughn.	Machine for Making Wheel Tires.	Sept. 30, 1851
Do	do	June 24, 1851
P. G. Gardner	do	Mar. 11, 1851
W. M. Lee	Machine for Making Car Wheels.	Oct. 19, 1854
J. H. Gage	Machine for Making Wheel Tires.	June 21, 1859
William Paterson	do	Mar. 29, 1859
J. N. H. Brubaker	Tool for Handling Wheel Tires.	Nov. 29, 1859
William and J. H. Mosher	Machine for Handling Wheel Tires.	Sept. 6, 1859
N. Washburn	do	Mar. 29, 1859
S. Jaqua	do	Jan. 29, 1861
S. Jaqua	do	Dec. 10, 1862
T. H. Miller	Machine for Rolling Axles.	Aug. 27, 1861
G. Schreyer	Machine for Making Axle Skeins.	Mar. 7, 1861
I. C. Singer	Machine for Bending Tires.	Mar. 10, 1863
S. Van Stone	Machine for Making Car Wheels.	June 4, 1867
William H. Bryant	Drawing Tires from Engine Driving Wheels.	Nov. 12, 1867
S. Hall	Machine for Bending Metal.	Feb. 26, 1867
Niman and Fidler	Machine for Bending Tires.	Apr. 30, 1867
G. Huntington	Machine for Bending Metal.	Oct. 15, 1867
D. Wetzel	Machine for Bending Tires.	Nov. 19, 1867
L. L. Crane	Forging Machine	May 7, 1867
F. Wiles	Machine for Bending Tires.	Aug. 13, 1867
William Willhide	do	Sept. 23, 1869
John Metzer	Bending Tire	June 15, 1869
John Naugle	do	Nov. 23, 1869
T. Ryan	Wrought Iron Wheels	Aug. 10, 1869
Wm. A. Lewis	Metal Axles	Oct. 10, 1871
D. F. Pomeroy	Bending Tires	Oct. 10, 1871
E. W. Ives	Axle Box	Apr. 25, 1871
J. M. Bryan	Bending Tire	June 2, 1868
W. S. Mc Intosh	Rolling Axles	June 16, 1868
Jno. L. Ferro	do	May 26, 1868
Wm. Richardson	Bending Machine	Jan. 28, 1868
B. W. Foster	Machine for Axles	Mar. 24, 1868
T. E. Vickers	Machine for Tires	June 30, 1868
R. Tyrrell	Bending Tires	June 23, 1868
Jacob Naylor	do	Mar. 24, 1868
J. Lamplugh	Welding Tires	Oct. 20, 1868
W. W. Simmons	Dies for Axles	Dec. 8, 1868
Stanabury and Stanabury	Bending Tires	Aug. 25, 1868
C. Young	Axles	May 8, 1866
Do	do	May 8, 1866
D. Ballou	Bending Tire	June 5, 1866
Wm. Harris	Rolling Tire	Nov. 13, 1862
G. Farner	Bending Tire	Feb. 25, 1862
S. H. Hartman	Machine for Axles	Aug. 26, 1862
Mosher, Mosher and Harris.	Bending Tires	Feb. 14, 1860
William Ballov	do	Aug. 14, 1860
Robert L. Wright	do	May 23, 1854
William A. Lewis	Axles	Oct. 10, 1871
R. W. Davis	Metal Fellies	Jan. 30, 1877
Levi Dodge	Metal Die	July 19, 1859
J. C. Richardson	Axles	Mar. 11, 1873
Do	do	Dec. 16, 1873
W. J. Parmlee	Axle Boxes	Apr. 1, 1873
F. E. Coleman	Bending Tire	Apr. 29, 1873
S. J. Dennis	Axle	May 13, 1873
G. J. Rablet	Bending Tire	May 2, 1871
W. W. Knowles	Axle Boxes	June 8, 1875
Henry Hammond	Dies for Axle Boxes	Apr. 16, 1875
Louos, Louos, Vernon and Holden.	Machine for Axles	Dec. 16, 1873
Schmok and Smith	Axles	Mar. 4, 1873
J. Tomlinson	Bending Tire	Feb. 4, 1873
J. Kritch	Axles	Dec. 7, 1875
G. A. Morse	Axle Boxes	Feb. 27, 1877
Stransbury and Stransbury.	Bending Tires	Aug. 24, 1875
Joseph Klepper	do	July 30, 1861
Henry Bloedel	Tire Cooler	Dec. 26, 1865
E. Stadtmeister	do	Dec. 21, 1869
F. Miller	Setting Tire	May 25, 1869
D. Squiers	do	Apr. 6, 1875

Name.	Device.	Date.
T. E. Barton	Bending Tire	July 31, 1837
D. Morris	Tire Cooler	Sept. 23, 1843
G. W Cramer	Tire	Dec. 15, 1863
G. H. Williams	....do	June 9, 1857
J. Wampach	Tire Cooling	Aug. 4, 1868
W. Beers	Tire Bending	Oct. 8, 1872
Clapp and Van Patten	Axle Dies	June 16, 1874
F. R. Edwards	Rolling Axles	Sept. 8, 1874
Henry Barringer	Machine for Upsetting Tire.	July 8, 1856
Cowles and Deming	Clamping and Upsetting Tire.	Aug. 19, 1856
E. J. Dodge	Machine for Upsetting Carriage-tire.	Aug. 31, 1858
Zina Doolittle	Machine for Upsetting Carriage-axles.	July 6, 1858
G. W. Cooper	.....do	June 29, 1858
Iris Hobson	Reducing Wheel-tires	June 15, 1858
S. S. Greene	Shrinking Tires	May 29, 1860
Olmstead and Walker	Machine for Upsetting Tires.	Aug. 7, 1860
Henry Barringer	.....do	June 19, 1860
A. P. Cassel	Machine for Shrinking Tires.	Oct. 16, 1860
C. V. Statler	Machine for Upsetting Tires.	Aug. 7, 1860
Leonard Kile	.....do	Apr. 10, 1860
George McKown	.....do	Mar. 20, 1860
O. Foster	.....do	Aug. 7, 1860
A. Voorhees	Machine for Shortening Tires.	Mar. 22, 1860
Marvin Mead	Machine for Upsetting Tires.	Jan. 14, 1862
J. W. Lawson	.....do	June 24, 1862
G. Danielson	.....do	Sept. 23, 1862
John M. Brahn	.....do	Sept. 23, 1862
F. R. Wilson	.....do	Dec. 9, 1862
Alfred Ingalls	.....do	Apr. 29, 1862
L. B. Lathrop	Machine for Shrinking Tires.	Feb. 4, 1862
Charles Seymour	Machine for Upsetting and Straightening Tires.	Sept. 2, 1862
Joseph Robison	Machine for Upsetting Tires.	Sept. 23, 1862
George McKown	.....do	June 17, 1862
Ferris and Bacon	Machine for Shrinking Tires.	Sept. 13, 1864
Melchi Scott	Tire or Hoop Bender	June 21, 1864
L. A. Dole	Machine for Upsetting Tires.	Jan. 12, 1864
Samuel Martin	.....do	Apr. 5, 1864
Joseph Olmstead	Machine for Shrinking Tires.	Jan. 12, 1864
L. W. Loomis	Machine for Upsetting Tires.	Sept. 18, 1866
Alonzo Stow	.....do	June 19, 1866
George T. Ridings	Tire Machine	July 10, 1866
Thomas Pratt	.....do	Oct. 23, 1866
Edward Cook	Machine for Upsetting Tires.	May 29, 1866
James P. Howell	Machine for Shrinking Tires.	Apr. 24, 1866
H. W. Caswell	.....do	Aug. 28, 1866
Thomas Tully	.....do	Aug. 21, 1866
G. Huntington	.....do	Aug. 14, 1866
William Massey	Machine for Contracting the Circumference of Wrought-iron Bands.	July 3, 1849
Hiram Abbott	Machine for Upsetting Tires.	Nov. 13, 1855
Aaron Whitcomb	.....do	Aug. 21, 1839
Hargen and Gibbs	.....do	July 7, 1857
R. W. Gates	.....do	Jan. 6, 1857
Crowell and Smith	.....do	May 17, 1859
Benjamin Upton	.....do	May 21, 1861
Salmon and Bliss	.....do	Feb. 19, 1861
C. W. Wilkins	.....do	Feb. 12, 1861
C. Weltman	Machine for Shrinking Tires.	Nov. 19, 1861
M. P. Larry	Machine for Upsetting Tires.	May 5, 1863
Ira D. Card	.....do	Aug. 25, 1863
J. J. Ross	Machine for Cutting and Punching Iron.	Aug. 1, 1865
C. L. Crowell	Tire Machine	Aug. 15, 1865
Hiram L. Howard	Machine for Upsetting Tires.	Dec. 12, 1865
J. M. Kellog	Machine for Shrinking Tires.	Oct. 31, 1865
Melchi Scott	.....do	Sept. 26, 1865
John L. Lloyd	.....do	Jan. 31, 1865
C. V. Statler	.....do	Jan. 10, 1865
C. Weltman	.....do	Dec. 19, 1865
A. Steadman	Machine for Upsetting Tires.	June 6, 1865
G. Huntington	.....do	June 13, 1865
J. B. and M. R. Jackson	Machine for Shrinking Tires.	Nov. 12, 1867
D. A. Boland	Machine for Upsetting Tires.	Oct. 17, 1865
G. M. Berdsley	Machine for Upsetting Tires.	Apr. 9, 1867
A. E. Wing	Machine for Shrinking Tires.	Feb. 26, 1867
L. Wilkinson	.....do	Nov. 5, 1867
J. J. Sandgreen	Machine for Shrinking, Punching, and Upsetting Tires.	Oct. 29, 1867
A. Rogers	Machine for Shrinking Tires.	Aug. 13, 1867
C. V. Statler	Combined Shrinking and Punching Machine.	Nov. 19, 1867
J. Robinson	Machine for Shrinking Tires.	Feb. 26, 1867
C. H. Wakefield	.....do	Mar. 5, 1867
D. Ellenwood	.....do	June 25, 1867
C. Jackson	.....do	Apr. 2, 1867
J. J. Ross	Cutting, Punching, and Upsetting Iron.	Nov. 12, 1867
A. A. Kent	Cutting, Punching, and Upsetting Tires.	Nov. 19, 1867
J. Gottomy	Tire Bending and Shrinking.	Dec. 24, 1867
A. S. Hait	Machine for Upsetting Tires.	Dec. 21, 1869
G. W. Dalbey	.....do	Aug. 17, 1869
N. P. Quick	Machine for Upsetting Tires and Anviling.	July 20, 1869
J. W. Cleveland	Machine for Upsetting Tires.	May 4, 1869
Elias Shopbell	.....do	Aug. 31, 1869
Dennis C. Burdick	Punching, Shearing, and Shrinking Iron.	Mar. 2, 1869
E. R. Carter	Upsetting Machine	May 4, 1869
Joseph Adkins	Shrinking Tires	Mar. 30, 1869
S. D. Hicks	Upsetting, Punching, Shearing, and Saw Gummer.	Nov. 9, 1869
William M. Hughes	Upsetting Tires	Feb. 23, 1869
J. C. Jordan	Upsetting, Punching, and Cutting Tires.	June 23, 1869
Ross and Brown	Upset Punch and Shears	Sept. 21, 1869
Ross and Brown	.....do	Sept. 21, 1869
O. Pateo	Upset Tire, &c	June 29, 1869
Albert Winship	.....do	May 4, 1869
H. B. Sovey	Cutting, Punching, and Upsetting Tire.	July 18, 1871
E Hitt and A. Lent	Upsetting Tire	Oct. 31, 1871
J. C. Jordan	Cutting, Punching, and Bending Tire.	June 13, 1871
W. Bowden	Tire Machine	Nov. 21, 1871
M. L. Munger	Machine for Upsetting Iron.	Jan. 24, 1871
D. L. Badley	Upsetting Tire	Aug. 12, 1873
Robert Gibbs	.....do	Sept. 2, 1873
C. J. Peterson	.....do	Mar. 4, 1873
Hiram B. Sovey	Metal-working Machine	Sept. 9, 1873
John L. Yeager and A. H. Yeager.	Upsetting Tires	Sept. 16, 1873
George L. Jones	Metal-working Machine	Sept. 2, 1873
Daniel Stratton	Tire-shrinker	Mar. 9, 1875
J. H. Mertz	Tire-upsetting Machine.	Sept. 21, 1875
William Holdsworth	.....do	Oct. 26, 1875
M. G. Schenck	.....do	July 6, 1875
H. W. Roland	Tire-shrinking Machine	Oct. 19, 1875
George D. Jacoby	Tire-upsetting Machine	Dec. 21, 1875
C. J. Rennold and N. Stoddard.	.....do	Feb. 9, 1875
J. D. Hobbs	Tire-shrinking Machine.	Sept. 21, 1875
H. S. Vinton	Tire-upsetting Machine.	Apr. 6, 1875
Matthias Schon	.....do	Dec. 7, 1875
L. W. Tyler	Bending, Upsetting, and Cutting Tire.	May 27, 1877
R. Bandhauer	Combined Metal-working Machine.	Mar. 20, 1877
John Macy	Shrinking Tire	Apr. 28, 1868
S. E Lockwood	Punching and Upsetting Apparatus.	Mar. 3, 1868
John Elliot	Tire-shrinking Machine	Jan. 7, 1868
John F. Sargent	Tire-upsetting Machine	Apr. 14, 1868
E. B. Decker	Tire-shrinking Machine	Jan. 7, 1868
Hiram Culver	Tire-upsetting Machine	Dec. 22, 1868
A. H. Ford	.....do	May 26, 1868
W. Britton	Tire Shrinking and Punching Machine.	June 9, 1868
William Hunt	Compound Machine for Upsetting, Punching, and Cutting Metal.	Sept. 20, 1870
John T. Woodward	Bending and Upsetting Machine.	June 21, 1870
Samuel Roe	Tire Machine	Oct. 25, 1870
William Bowden	Upsetting Tire	Aug 30, 1870
William Sleeper	Shrinking, Punching, Upsetting, and Bending Metal.	Sept. 13, 1870
Elias Shopbell	Machine for Upsetting Wagon-tires.	Jan. 2, 1866
T. Sullivan	.....do	Apr. 26, 1870
P. J. Ayre	.....do	Mar. 8, 1870
William Wert	Machine for Shrinking Tires.	Jan. 25, 1870

Name.	Device.	Date.
Hiram B. Sevoy	Machine for Cutting, Punching, and Upsetting Metal.	July 9, 1872
C. S. Shark	Machine for Shrinking Tire.	Nov. 8, 1870
A. Young	Machine for Upsetting Tires.	Oct. 15, 1872
M. D. King	....do	Dec. 31, 1872
George G. Burgess	Machine for Upsetting Rods.	May 28, 1872
H. Harrison	Machine for Upsetting Tires.	Dec. 1, 1874
J. Naugle	Machine for Bending and Shrinking Tires.	Jan. 30, 1872
M. Schon	Machine for Upsetting Tires.	Mar. 10, 1874
O. C. Tebbs	....do	Dec. 15, 1874
Marquis D. King	....do	Mar. 3, 1874
H. W. Moore	Compound Metal-working Machine.	Apr. 11, 1876
William Bowden	Machine for Upsetting Tires.	June 2, 1874
G. L. Jones	Compound Metal-working Machine.	Nov. 17, 1874
Samuel Albright	Machine for Upsetting Tires.	Aug. 11, 1874
Samuel Maharay	Upsetting Tire Machine.	Dec. 12, 1876
N. Sawyer	....do	Nov. 21, 1876
D. W. Copeland	....do	Sept. 12, 1876
Charles H. Reynolds	....do	Feb. 1, 1876
E. B. Rose	....do	May 30, 1876
George S. Jones	Compound Metal-working Machine.	July 4, 1876
W. H. Jones and J. A. Stuart.	Shrinking Tire Machine	Apr. 11, 1876
N. W. Griffith	Upsetting Tire Machine.	Nov. 7, 1876
George D. Jacoby	....do	Apr. 11, 1876
J. H. Kock	....do	Mar. 28, 1876
William McInturf	....do	July 11, 1876
Ed. W. Holt	....do	Sept. 5, 1876
V. N. Mitchell	Machine for Paring Horses Hoofs.	June 2, 1857
Hillmer and Williams	Blacksmiths' Buttresses.	Apr. 21, 1857
J. E. Draper	Tool for Clinching Horse-shoe Nails.	Aug. 6, 1861
D. A. Wilson	....do	Oct. 17, 1865
John E. Tucker	Foot Rest for Horses	Feb. 5, 1867
D. W. Bush	Tool for Clinching Nails on Horseshoes.	Aug. 27, 1867
S. D. Freet	Tool for Paring Horses' Hoofs.	Mar. 5, 1867
John Koyl	Nail Clincher	Sept. 3, 1867
Hayes and Duncan	Tool for Sharpening Horseshoe Calks.	Dec. 24, 1867
Nicholas Repp	Nail Clincher for Horse-shoes.	June 8, 1869
Enos Morley	....do	Sept. 28, 1869
Fisher and Mack	....do	Mar. 30, 1869
Butler, Durham and Wann	Sharpening Horseshoe Calks.	Jan. 19, 1869
David Kirk	Nail Clincher for Horse-shoes.	Jan. 26, 1869
F. Lehman	Horse Hoof Parer	Nov. 16, 1869
John Temple	....do	June 15, 1869
Rogers and Thompson	Shoeing Device	Feb. 2, 1869
S. S. Blackburn	Rest for Shoeing Horses.	Apr. 27, 1869
T. C. Williams	Foot Lifter for Black-smiths.	Apr. 4, 1871
Samuel J. Forbes	Blacksmiths' Tool	Oct. 10, 1871
D. Mater	Nail Clincher for Horse-shoes.	Aug. 8, 1871
Isaac Baker	Hoof Parer	Oct. 10, 1871
G. Stansel	Horse Foot Rest	Oct. 17, 1871
George W. Shafer	Horse Hoof Parer	Apr. 22, 1873
S. Davis	Blacksmiths' Buttresses	July 4, 1871
Joshua Legg	Horseshoers' Rest	Aug. 12, 1873
John Kunz	Nail Clincher	Jan. 7, 1873
Thomas Armstrong	Hoof Spreador	Mar. 11, 1873
A. Shiran and W. J. Givens.	Hoof Trimmer	Feb. 16, 1875
C. R. Donner	Horseshoeing Tool	Aug. 24, 1875
Joseph Van Matre	Blacksmiths' Tongs	June 5, 1877
Michael Baltes	Farriers' Tool	Sept. 14, 1875
Charles Schnoor	Horseshoeing Apparatus	Jan. 5, 1875
J. Smith	Horseshoeing Swages	Mar. 27, 1877
R. Denholm	Horseshoe Calk Sharpener.	Mar. 27, 1877
J. Hilger	Hoof Parers	May 15, 1877
J. H. Gregory	Blacksmiths' Tongs	May 8, 1877
Crafts and Weeks	Hoof Parer	Jan. 1, 1850
Galentino, Galentino and Russell.	Hoof Expandor	Dec. 23, 1856
Noah Warlick	Horseshoeing Apparatus	Aug. 29, 1854
D. J. Hendrickson	Nail Clincher	Feb. 16, 1858
James Houck	....do	Apr. 25, 1852
A. Baker	Hoof Parer	Aug. 7, 1860
G. R. Stevens	Horseshoeing	July 3, 1860
Joel E. Giles	Nail Clincher	Feb. 23, 1864
T. B. and L. W. Holly	Blacksmiths' Tool	Nov. 25, 1862
William Tansley	Hoof Parer	Apr. 22, 1862
Warren and Johnston	Farriers' Tool	May 24, 1864
D. H. Williams	Nail Clincher	May 29, 1866
J. B. Wilder	....do	July 14, 1868
E. A. Bushnell	Sharpening Calks	Aug. 11, 1868
John Tipton	Hoof Expander	Jan. 21, 1868
Henry Kimo	Sharpening Calks	Dec. 1, 1868
R. Stout	Horseshoeing Tool	Apr. 5, 1870
H. M. Close	Sharpening Calks	June 30, 1868
Andrew J. Dexter	Blacksmiths' Tongs	July 19, 1870
Ernest Baker	Buttresses	Oct. 8, 1872
John Shimer	Horseshoeing Jack	Mar. 12, 1872
John N. Rhamy	Buttress	June 11, 1872
J. C. Johnson	Hoof Parer	Oct. 8, 1872
D. J. Toust	Buttresses	Mar. 19, 1872
M. C. Malone	Hoof Shears	Apr. 30, 1872
Sidney Ogden	Farriers' Tongs	Apr. 23, 1872
J. F. Kernon	Blacksmiths' Tool	Mar. 5, 1872
W. H. Lyman	Nail Clincher	July 2, 1872
F. B. and William O. Sutton.	Hoof Trimmer	May 12, 1874
Washington Bryant	....do	Feb. 24, 1874
D. Booker and T. N. Tosh	....do	Mar. 17, 1874
J. W. Gordon and G. F. Sleeper.	Buttresses	June 13, 1876
Charles Blakesleo	Hoof Cleaner	May 2, 1876
Burroughs and Carrothers	Hoof Parer	May 9, 1876
J. Slautterback	Nail Clincher	Oct. 31, 1876
Oscar Rogers	Hoof Parer	Aug. 8, 1876
Charles H. Shepard	Hoof Expander	Sept. 26, 1876
George Greiner	Hoof Trimmer	Sept. 22, 1876
T. W. McIntosh	Hoof Spreader	Sept. 15, 1876
Devoe, Rogers and Beals	Blacksmiths' Tool Box	Jan. 30, 1872
Charles H. Shadt	Anvil	Feb. 12, 1861
L. Kirkup	....do	Jan. 1, 1867
O. and S. E. Brigham	....do	Feb. 3, 1857
C. F. Moore	Blacksmiths' Hardies	Aug. 1, 1871
Daniel Goodnow	Mechanics' Tool	July 13, 1876
Alonzo Hitchcock	Anvil Beds	Mar. 28, 1876
B. A. Ellison	Reversible Anvil	July 23, 1874
Joseph Bolt	Anvil and Vise	Aug. 8, 1876
G. Horuby	Anvil	May 19, 1874
James Jenkins	....do	Sept. 12, 1876
R. D. Chandler	Anvil and Vise	June 29, 1869
Lyman Derby	Nut Lock	June 19, 1863
Raymond and Brassington	....do	Feb. 14, 1865
Harris and Browning	....do	Jan. 29, 1867
E. A. Ellsworth	....do	Dec. 3, 1867
William Harris	....do	Dec. 24, 1867
Charles Buckley	....do	Sept. 24, 1867
D. P. Hart	....do	Aug. 6, 1867
John R. Cribbs	....do	Mar. 16, 1869
L. L. Deweese	....do	June 22, 1869
R. White	....do	June 8, 1869
J. B. Smith	....do	Mar. 9, 1869
L. L. Deweese	....do	June 22, 1869
Morgan Payne	....do	Dec. 21, 1869
J. H. Fisher	....do	Oct. 19, 1869
Thomas Hogan	....do	July 20, 1869
A. Ruff	....do	Aug. 3, 1869
G. C. Stemper	....do	May 18, 1869
J. W. Hilton	....do	Mar. 30, 1869
H. L. Purdie	....do	Dec. 5, 1871
W. H. Phipps	....do	June 13, 1871
W. H. Van Cleve	....do	Nov. 7, 1871
J. Hovey	....do	Aug. 22, 1871
John P. Verree	Elastic Washer	Dec. 26, 1871
H. L. Purdie	Nut Lock	Dec. 5, 1871
Do	....do	Dec. 5, 1871
L. J. Smith	....do	May 23, 1871
H. L. Purdie	....do	Dec. 5, 1871
S. T. Lamb	....do	Nov. 21, 1871
James L. Estill	....do	Nov. 28, 1871
L. Fay	....do	Mar. 14, 1871
A. McKenney	....do	Aug. 1, 1871
S. I. Thompson	....do	Mar. 16, 1871
James L. Connel	....do	Aug. 1, 1871
William P. Horton	....do	Oct. 10, 1871
J. Maitland	....do	Dec. 12, 1871
Samuel Van Stone	....do	Aug. 15, 1871
John W. Coobrane	....do	June 10, 1871
A. W. Bunnell	....do	Sept. 5, 1871
Do	....do	Sept. 5, 1871
A. McKenney	....do	Aug. 22, 1871
H. O. Pearson	....do	Apr. 11, 1871
C. F. Keller	....do	May 4, 1869
C. O. Yale	....do	May 16, 1871
P. Phillips	....do	Apr. 6, 1869
M. Grover	....do	Sept. 14, 1869
S. C. Adams	....do	June 15, 1869
George Talmer	....do	Feb. 2, 1869
James J. Steward	....do	June 1, 1869
George Talmer	....do	June 1, 1869
Ewing and DeFord	....do	Sept. 7, 1869
F. Oakley	....do	Aug. 17, 1869
K. Brown	....do	Apr. 27, 1869
H. McCoun	....do	Mar. 16, 1869
Do	....do	May 25, 1869
William Morehouse	....do	May 25, 1869
Charles H. Everhart	....do	Aug. 24, 1876
Charles Pickles	....do	Aug. 29, 1876
William Metcalf	....do	Mar. 21, 1876
Frank Braillior	....do	July 18, 1876
P. S. Haldeman and A. J. Stewart.	....do	Aug. 15, 1876
Samuel Henry	....do	May 16, 1876
J. N. Arvin	....do	June 6, 1876

Name.	Device.	Date.
T. C. Conrad	Nut Lock	Aug. 22, 1876
F. B. Wigley	do	Jan. 11, 1876
K. H. Loomis	do	July 18, 1876
James E. Fred	do	May 2, 1876
K. C. Nailor	do	Aug. 29, 1876
N. E. Brown	do	June 20, 1876
A. J. Scott	do	Oct. 17, 1876
A. J. Potter	do	Aug. 8, 1876
H. Livingston	do	Mar. 21, 1876
Daniel Deshon	do	Aug. 22, 1876
L. A. Rebasz	do	July 18, 1876
John F. Wiles	do	Jan. 4, 1876
William McLinens	do	June 13, 1876
A. A. Bushong and J. B. Fitzpatrick.	do	Aug. 1, 1876
T. Weaver	do	Oct. 10, 1876
Michael Neil	do	Nov. 21, 1876
Daniel R. Pratt	do	Oct. 17, 1876
J. H. Champion	do	Nov. 28, 1876
C. Miller and M. S. Davis	do	Mar. 21, 1876
C. Dull	do	Nov. 14, 1876
A. W. Burlingame	do	Mar. 28, 1876
I. Van Kuran	do	May 30, 1876
John T. Parks	do	Feb. 1, 1876
C. Hall	do	Nov. 7, 1876
A. Thompson and J. F. Thompson.	do	Oct. 31, 1876
J. J. Adgate	do	Feb. 29, 1876
Hugh Carlile	do	Feb. 22, 1876
George F. Gordon	do	Mar. 14, 1876
D. R. Baird	do	Oct. 10, 1876
Daniel Dull	do	Apr. 25, 1876
William Onions	do	Mar. 7, 1876
M. H. Dooley	do	Dec. 5, 1876
Jacob A. Camp	do	Nov. 14, 1876
S. Caldwell	do	May 29, 1877
J. T. Collins and E. B. Grant.	do	July 3, 1877
J. A. Nicholls	do	July 17, 1877
Thomas McDonough	do	Aug. 21, 1877
S. S. Crocker and A. Wilcox.	do	Aug. 14, 1877
T. J. Sawyer	do	Aug. 28, 1877
J. J. Walden	do	July 31, 1877
W. H. Williams	do	July 6, 1869
B. W. Nichols	do	Apr. 20, 1869
William C. Mason	do	Oct. 12, 1869
G. W. R. Bayley	do	Mar. 2, 1869
A. Roff	do	Apr. 13, 1869
P. L. Gibbs	do	Oct. 26, 1869
C. H. Crosby	do	Jan. 12, 1869
William E. Ball	do	Apr. 27, 1869
M. W. Griswold	do	Oct. 19, 1869
William P. Porter	do	June 1, 1869
Hazelton and Southard	do	May 4, 1869
John Davis	do	Apr. 20, 1869
G. G. Hickman	do	Sept. 10, 1867
V. Lapham	do	Nov. 12, 1867
Harris and Browning	do	Jan. 29, 1867
William F. Vernier	do	Nov. 10, 1863
J. H. Gridley	do	Feb. 26, 1867
H. F. Armstrong	do	June 27, 1865
Lawrence and White	do	July 23, 1861
T. Whitmore	do	Oct. 8, 1867
L. Paige	do	Jan. 3, 1854
G. G. Hickman	do	Aug. 14, 1866
Levi Till	do	July 3, 1866
D. Cummings	do	June 16, 1868
A. D. Smith	do	June 16, 1868
S. W. Kirk	do	Mar. 31, 1868
O. S. Freeland	do	Feb. 22, 1870
Thomas Shaw	do	Apr. 28, 1868
M. Langhorn	do	Feb. 15, 1870
Daniel R. Pratt	do	Feb. 1, 1870
E. T. Ligan	do	May 24, 1870
D. Cummings	do	Aug. 23, 1870
S. H. Wheeler	do	Oct. 11, 1870
J. Moorecroft	do	Sept. 27, 1870
A. G. Binns	do	Apr. 5, 1870
Robert White	do	July 19, 1870
M. A. Cushing	do	Dec. 6, 1870
G. G. Hermance	do	Feb. 1, 1870
Casper Gilman	do	July 2, 1872
William H. Vanclere	do	Mar. 12, 1872
William E. Ball	do	Aug. 20, 1872
J. A. Morrison	do	Apr. 30, 1872
C. F. Brush	do	Jan. 30, 1872
J. Minetree	do	Dec. 10, 1872
H. C. Stouffer	do	Apr. 2, 1872
George P. Rose	do	Mar. 5, 1872
A. T. Morris	do	Jan. 16, 1872
George Hart	do	June 25, 1872
W. P. Horton	do	Dec. 24, 1872
A. M. Roque	do	Dec. 31, 1872
H. C. Stouffer	do	Jan. 9, 1872
I. Allen	do	July 30, 1872
L. Winslow	do	July 30, 1872
B. G. Paterson	do	June 4, 1874
R. Rutter	do	May 31, 1870
J. Bell	do	Oct. 4, 1870
Robert Gilliand	do	Sept. 20, 1870
T. B. Young	do	May 3, 1870
T. T. Prosser	do	May 31, 1870
E. D. Taylor	Nut Lock	Apr. 5, 1870
Southwait and Baker	do	Apr. 5, 1870
Dyer, Parker and Way	do	Nov. 8, 1870
McGonaughey and Adams	do	May 17, 1870
F. Myers	do	Oct. 18, 1870
U. B. Vidal	do	May 31, 1870
N. Thompson	do	Feb. 8, 1870
Do	do	Feb. 22, 1870
John Miller	do	Nov. 1, 1870
James Dennis	do	Aug. 9, 1870
Huffman and Johnston	do	June 7, 1870
F. Myers	do	Oct. 18, 1870
H. Bagle	do	May 31, 1870
R. D. McGowan	do	Aug. 30, 1870
D. R. Pratt	do	June 25, 1870
C. Ditman	do	May 24, 1870
E. R. Shepard	do	May 3, 1870
William J. Stowell	do	Aug. 11, 1868
J. Rogers	do	June 30, 1868
H. W. McAuley	do	Oct. 25, 1870
B. D. Sanders	do	Oct. 20, 1868
William Mullins	do	Apr. 7, 1868
Elliott and Seely	do	Feb. 4, 1868
William Morehouse	do	Oct. 13, 1868
James Christy	do	Apr. 21, 1868
Samuel Garber	do	July 7, 1868
A. V. B. Orr	do	Mar. 17, 1868
Logan and Fisher	do	Sept. 22, 1868
B. D. Sanders	do	Oct. 20, 1868
George P. Darrow	do	Aug. 25, 1868
William Hamilton	do	Dec. 29, 1868
F. Tudor	do	Oct. 20, 1868
A. N. Towne	do	July 14, 1868
George W. Byley	do	July 24, 1860
S. Noblet	do	Sept. 21, 1858
T. C. Hayes	do	July 23, 1872
A. B. Davis	do	Jan. 23, 1872
L. Arnold	do	July 23, 1872
J. Dinsmore	do	May 28, 1872
George J. Harris	do	June 25, 1872
Daniel Sawyer	do	Sept. 24, 1872
E. M. Turner	do	Apr. 23, 1872
Furst and Ottinger	do	Dec. 31, 1872
L. L. Dunlap	do	Oct. 8, 1872
E. H. Dooley	do	Jan. 16, 1872
S. A. Todd	do	Dec. 10, 1872
Jos. S. Kirkpatrick	do	Aug. 13, 1872
J. Saeger	do	July 9, 1872
F. A. Bishop	do	Dec. 10, 1872
Peabody and Champlin	do	May 7, 1872
John Miller	do	Aug. 20, 1872
K. H. Loomis	do	Nov. 26, 1872
T. E. Rhine	do	Nov. 19, 1872
Peter Hayden	do	Oct. 1, 1872
K. H. Loomis	do	Jan. 23, 1872
P. L. Gibbs	do	May 28, 1872
A. Morley	do	May 28, 1872
S. B. Lowe	do	Feb. 20, 1872
T. W. Kirkwood	do	Apr. 2, 1872
J. L. Williams	do	Oct. 1, 1872
J. N. Winslow	do	June 4, 1872
A. C. Smith	do	Nov. 5, 1872
F. H. Bradley	do	July 23, 1872
D. Cummings	do	Nov. 5, 1872
J. L. Randolph	do	Dec. 27, 1870
G. L. Hillard	do	Oct. 8, 1872
C. W. Penfield	do	June 23, 1874
Jos. Ellenburger	do	Mar. 24, 1874
E. B Waignte	do	Apr. 7, 1874
T. B. Wrighley	do	Feb. 7, 1874
D. R. Pratt	do	Oct. 27, 1874
George C. Thomas	do	Dec. 22, 1874
C. R. Watrous	do	Apr. 7, 1874
A. B. Buell	do	Feb. 10, 1874
H. S. Ferman	do	Oct. 20, 1874
Conner and Fuller	do	Apr. 7, 1874
Caspar Dittman	do	Sept. 8, 1874
H. Rosamyer	do	Aug. 3, 1869
C. Hutchinson	do	Oct. 6, 1874
H. P. Hood	do	Jan. 20, 1874
S. Brimson	do	July 28, 1874
William M. Spacht	do	Feb. 3, 1874
C. C. Shelby	do	Apr. 28, 1874
S. Hummel	do	Mar. 10, 1874
William M. Watson	do	Jan. 13, 1874
D. W. De Forest	do	June 23, 1874
M. McDevitt	Unlocking Nut-Lock	Apr. 14, 1874
A. C. Fletcher	Nut-Lock	July 7, 1874
D. F. Taft	do	Oct. 20, 1874
J. B. Sweetland	do	Apr. 14, 1874
J. C. Thomas	do	Jan. 13, 1874
Sikes and Sikes	do	May 12, 1874
D. Z. Lantz	do	Apr. 28, 1874
D. R. Pratt	do	Oct. 27, 1874
William Duncan	do	Aug. 25, 1874
Richard H. Doane	do	July 21, 1874
Fisher and Fisher	do	Sept. 29, 1874
A. F. Diamond	do	Dec. 29, 1874
J. C. Tiffany	do	Jan. 20, 1876
J. B. Atwood	do	Mar. 17, 1874
S. W. Baldwin	do	June 9, 1874
Thomas J. McTighe	do	Jan. 27, 1874
F. L. Bates	do	Nov. 10, 1874

Name.	Device.	Date.
S. T. Lamb	Nut Lock	Feb. 10, 1874
George P. Fuller	do	Feb. 22, 1876
John Morton	do	Apr. 18, 1876
Smith and Gill	do	May 23, 1876
J. J. Adgate	do	Feb. 15, 1876
James E. Withers	do	Jan. 25, 1876
Amos Walton	do	May 16, 1876
W. S. Roberts	do	Dec. 8, 1874
S. D. Enochs	do	Dec. 26, 1876
A. Paul	do	May 2, 1876
C. Holton	do	Apr. 25, 1876
O. P. Cobb	do	Mar. 28, 1876
I. Van Kuran	do	Feb. 15, 1876
Jas. Curran	do	May 16, 1876
Deods & Toole	do	Feb. 1, 1876
M. A. Spafford	do	May 30, 1876
F. M. F. Cazin	do	Jan. 18, 1876
R. P. Thomas	do	Feb. 29, 1876
George W. Henry	do	Jan. 4, 1876
S. A. Brumbaugh	do	Feb. 1, 1876
Harry Simpson	do	Dec. 19, 1876
F. W. Carpenter	do	Feb. 1, 1876
O. P. Latham	do	July 4, 1876
William H. Young	do	Dec. 5, 1876
John Nelson	do	May 16, 1876
Peter Zeiber	do	Nov. 28, 1876
J. H. Webster	do	Jan. 25, 1876
J. Foster	do	Mar. 21, 1876
John Nelson	do	Mar. 14, 1876
Edw. G. Felthousen	do	Sept. 26, 1876
F. R. Gridley	do	Apr. 22, 1873
L. J. Miller	do	Apr. 29, 1873
P. F. King	do	Aug. 19, 1873
Charles R. Watrous	do	Dec. 30, 1873
H. P. Hood	do	Jan. 21, 1873
C. Dittman	do	Nov. 25, 1873
M. F. McIntire	do	Mar. 18, 1873
K. H. Loomis	do	Sept. 9, 1873
A. C. Smith	do	Dec. 30, 1873
M. L. Ballard	do	Apr. 7, 1873
J. B. Sweetland	do	Dec. 30, 1873
L. Leeds	do	Dec. 30, 1873
H. W. Dott	do	Aug. 26, 1873
William Bowman	do	Nov. 25, 1873
John Wetmore	do	June 24, 1873
Eichenberger and Binkley	do	Apr. 1, 1873
Charles A. Howard	do	Nov. 25, 1873
John McCallison	do	Apr. 8, 1873
A. C. Hull	do	July 3, 1873
Hood & Combs	do	Feb. 4, 1873
Thompson & Rico	do	Feb. 11, 1873
Antill & Sloan	do	Aug. 19, 1873
R. W. Hamilton	do	Aug. 8, 1871
W. Todd	do	June 14, 1873
M. G. Hubbard	do	Feb. 11, 1873
E. B. Wingate	do	Jan. 14, 1873
C. H. Taylor	do	Sept. 16, 1873
Edward Turner	do	Apr. 1, 1873
William H. Nichols	do	Jan. 28, 1873
I. E. Nagle	do	Apr. 1, 1873
F. P. Thompson	do	July 29, 1873
Sanford Peatfield	do	Oct. 28, 1873
A. Williams	do	Jan. 14, 1873
A. Porter	do	May 27, 1873
H. C. Lowe	do	Sept. 16, 1873
Daniel Sawyer	do	Sept. 23, 1873
W. B. Wait	do	Apr. 22, 1873
Edward Czarniecki	do	June 24, 1873
G. D. Keen	do	Apr. 1, 1873
Edward Kaylor	do	Dec. 9, 1873
B. W. Davis	do	Mar. 18, 1873
E. A. Cooper	do	Nov. 11, 1873
John A. Reed	do	July 8, 1873
C. L. Holland	do	Apr. 20, 1875
M. Hays	do	Apr. 15, 1873
J. Russell	do	Apr. 25, 1873
F. C. Hamilton	do	Oct. 5, 1875
John G. Perry	do	Sept. 7, 1875
H. L. Heaton	do	May 18, 1875
A. E. Harris	do	Sept. 28, 1875
J. C. Wright	do	Sept. 21, 1875
W. P. Olden	do	June 22, 1875
D. & S. A. Baton	do	Aug. 24, 1875
D. B. Snyder	do	Feb. 23, 1875
John Miller	do	Jan. 19, 1875
B. J. Noonan	do	Feb. 9, 1875
R. Cramer	do	Apr. 13, 1875
R. Long	do	Nov. 9, 1875
G. B. Rager	do	Nov. 16, 1875
M. G. Hubbard	do	Apr. 20, 1875
J. J. Adgate	do	Jan. 26, 1875
J. M. Kent	do	July 27, 1875
J. J. Adgate	do	Mar. 16, 1875
J. C. Wright	do	July 15, 1875
William C. Gold	do	Apr. 13, 1875
C. J. Cummings	do	Feb. 2, 1875
Shoemaker & Jones	do	Sept. 21, 1875
O. T. Welch	do	Mar. 30, 1875
O. B. Latham	do	June 22, 1875
L. Chapman	do	Oct. 19, 1875
S. Brunson	do	Apr. 20, 1875
J. J. Gray	do	Feb. 9, 1875
W. F. Marthens	do	June 22, 1875

Name.	Device.	Date.
J. M. Whitmore	Nut Lock	July 20, 1875
C. Holton	do	Sept. 21, 1875
J. B. Atwood	do	Oct. 11, 1875
Barker & Barker	do	Oct. 19, 1875
R. C. Watson	do	Oct. 11, 1875
E. Barrowclough	do	Feb. 9, 1875
S. T. Hughes	do	Mar. 24, 1875
C. Henderson	do	Oct. 5, 1875
Keating and Bristor	do	Nov. 16, 1875
D. D. Jones	do	July 6, 1875
T. Vernon	do	Apr. 3, 1877
J. McCray	do	May 15, 1877
E. P. Landfear	do	Jan. 2, 1877
T. L. Williams	do	May 1, 1877
A. Johnson	do	Mar. 6, 1877
J. W. Eaton	do	July 3, 1877
William Lyon	do	July 31, 1877
L. Sterne	do	Jan. 2, 1877
J. C. Wright	do	Apr. 24, 1877
William Tunstill	do	Jan. 2, 1877
William Dicks	do	Feb. 6, 1877
Hahn and Myers	do	May 22, 1877
H. C. Stouffer	do	May 29, 1877
W. C. Harner	do	May 8, 1877
William C. Gold	do	Jan. 23, 1877
Brown and Huly	do	May 15, 1877
J. Hollinsworth	do	July 3, 1877
F. Swingly	do	Jan. 9, 1877
Mercer and Pownall	do	May 8, 1877
George Neilson	do	Apr. 17, 1877
J. D. Kennard	do	Apr. 17, 1877
E. R. Shepard	do	May 22, 1877
B. P. Sargent	Expanding Horseshoe	Oct. 25, 1853
William H. Towers	do	Dec. 20, 1853
John C. Jones	Elastic Horseshoe	Aug. 3, 1852
D. Cummings	Horseshoe	May 12, 1857
William H. Towers	do	July 25, 1854
William Cooper	do	June 30, 1857
N. B. Carpenter	do	May 13, 1856
William Somerville	do	Sept. 29, 1857
John Henderson	do	May 20, 1856
S. Short	do	July 8, 1856
E. Maynard	Horseshoe Calk	Feb. 24, 1857
N. E. Hinds	Horseshoe	Feb. 22, 1859
John Maddock	do	Sept. 21, 1858
Daniel Holmes	do	Apr. 16, 1842
J. D. Kendall	do	Nov. 12, 1861
R. A. Goodenough	do	May 29, 1860
C. H. Perkins	Horseshoe Calk	Apr. 9, 1861
A. Van Valkenburgh	Ox-Shoe	May 8, 1860
E. Cate	Horseshoe	Feb. 5, 1861
E. Wheeler	do	Mar. 2, 1858
T. M. Coleman	do	June 12, 1860
J. H. Jennings	Horseshoe Calk	May 21, 1861
Joseph Carlius	Horseshoe	Jan. 17, 1860
James Kennely	do	Mar. 31, 1863
L. Halo	Horseshoe Cushion	May 29, 1860
Isaac Peacock	Horseshoe	May 5, 1863
Pierre Thiry	do	July 22, 1862
O. A. Howe	do	Sept. 15, 1863
A. S. Wilkinson		July 3, 1866
Emanuel Ployet	Horseshoe	Oct. 6, 1863
C. M. Werner	do	Apr. 10, 1866
A. S. Wilkinson	do	Feb. 12, 1867
Do	do	July 17, 1864
G. W. Lewis	do	Oct. 29, 1867
William H. Hall	Horseshoe Cushion	May 1, 1866
George Custer	Horseshoe Calk	Feb. 12, 1867
A. S. Wilkinson	Horseshoe	July 10, 1866
Patrick Houley	do	Dec. 24, 1867
E. C. Gero	do	July 17, 1866
A. S. Wilkinson	do	Aug. 21, 1866
C. M. Warner	do	Feb. 19, 1867
A. S. Wilkinson	Horseshoe Calk	Aug. 14, 1866
W. H. Shuttluff	Horseshoe	Sept. 10, 1867
H. B. Ferren	do	Sept. 15, 1868
H. W. Southworth	Horseshoe Pad	Aug. 11, 1868
John Wigner	Horseshoe	Mar. 10, 1868
J. L. Wetherell	Horseshoe Pad	July 28, 1868
C. O. Stevens	Horseshoe	Aug. 18, 1868
W. H. Harmar	do	Feb. 4, 1868
N. W. Hubbard	do	Feb. 18, 1868
Jamerson and Chamberlain.	do	Dec. 8, 1863
J. Heyl	do	July 21, 1868
George E. Rust	Horseshoe Cushion	Jan. 7, 1868
A. S. Hopson	Horseshoe	Mar. 31, 1868
John M. Clark	do	July 10, 1866
A. S. Wilkinson	do	July 10, 1868
Do	do	Aug. 7, 1866
Do	do	July 17, 1866
J. W. Falkner	Horseshoes	Apr. 10, 1866
A. S. Wilkinson	do	Aug. 14, 1866
F. Shinu	do	June 5, 1866
John H. Brown	do	Jan. 9, 1866
E. Sweader	do	Oct. 2, 1866
A. S. Wilkinson	do	Aug. 7, 1866
C. M. Warner	do	Sept. 25, 1866
A. S. Wilkinson	do	July 10, 1866
J. J. Payton	do	Nov. 14, 1866
H. H. Baker	do	Oct. 9, 1866
A. S. Wilkinson	Horseshoe Stoppings	Aug. 28, 1866
John Augustine	Horseshoe	Aug. 23, 1866

Name.	Device.	Date.
Behel and Buell	Horseshoes	May 29, 1866
Frederick Judson	Horseshoe Calk	May 22, 1866
T. H. Juce	Horseshoe	May 29, 1866
G. Bonnet	do	Aug. 7, 1866
A. S. Wilkinson	do	July 10, 1866
Henry Schreiner	do	May 22, 1866
William Hinns	do	Oct. 23, 1866
John Austin	do	Jan. 2, 1866
A. S. Wilkinson	do	July 17, 1866
William Litzenbury	do	Aug. 21, 1866
William E. Hubbard	do	June 29, 1858
H. H. Baker	do	July 16, 1866
A. H. Knapp	do	May 29, 1866
George Custer	do	June 28, 1864
Alexander Tyrrell	do	July 26, 1864
Merrill and Maxwell	Oxshoe	July 19, 1864
L. Carpenter	Horseshoe	June 20, 1864
Joel Fenn	do	May 24, 1864
Ward and Munger	do	May 24, 1864
John M. Johnson	do	May 24, 1864
William H. Parker	do	Oct. 4, 1864
James F. Mallett	do	Aug. 30, 1864
George W. Griswold	Horseshoe Calk	Aug. 2, 1864
Morgan Crittenden	Horseshoe	Oct. 11, 1864
Stickney and Taylor	do	Oct. 18, 1864
C. Weetman	do	Oct. 4, 1864
Charles H. Johnson	Horseshoe Calk	Apr. 18, 1865
Do	do	Apr. 25, 1865
H. H. Palmer	Horseshoe	Nov. 21, 1865
George Custer	do	July 4, 1865
Oliver P. McGill	do	Apr. 11, 1865
L. M. Gaiteau	do	May 9, 1865
Wilson Hodges	do	July 4, 1865
William Disbrow	do	Jan. 31, 1865
A. Weetman	do	Aug. 8, 1865
Do	do	Sept. 5, 1865
William Coes	do	Apr. 25, 1865
J. R. Potter	do	Nov. 14, 1865
J. A. Moore	do	July 15, 1865
S. Lloyd	Horseshoe Calk	Jan. 31, 1865
John Hastings	Horseshoe	July 25, 1865
James McPherson	do	Dec. 21, 1865
Alexander Tyrrell	do	Apr. 25, 1865
James L. Pike	do	Feb. 7, 1865
Joseph Jorey	do	July 5, 1859
H. Schreiner	do	Oct. 29, 1867
H. B. Davis	Horse Bracket, (Marsh Shoe.)	June 14, 1859
C. Weetman	Horseshoe	May 7, 1867
B. R. Watson	do	Feb. 19, 1867
T. B. Bishop	do	Feb. 12, 1867
Behel and Perrine	do	Nov. 12, 1867
A. S. Wilkinson	do	Sept. 24, 1867
W. J. Berne	Horseshoe Calk	July 16, 1867
A. S. Wilkinson	Horseshoe	Feb. 12, 1867
P. Charlier	do	Apr. 23, 1867
D. L. McDonell	do	Mar. 12, 1867
J. Wheeler	do	Nov. 5, 1867
David Stewart	Manufacture of Iron	Dec. 17, 1867
Silas Sloat	Horseshoe	Oct. 22, 1867
Henry Splitdorf	Horseshoe Armor	Oct. 8, 1867
A. S. Wilkinson	Horseshoe	May 28, 1867
H. Lake	Oxshoe	Oct. 29, 1867
A. S. Wilkinson	Horseshoe	Feb. 12, 1867
Do	do	May 2, 1867
T. B. Bishop	Electric Sole (Specimens)	Nov. 12, 1867
William J. Berne	Horseshoe Calk	Nov. 5, 1867
A. S. Wilkinson	Horseshoe	Feb. 12, 1867
John Austin	do	Feb. 12, 1867
James Forbes	Horseshoe Calk	Sept. 24, 1867
J. W. Hodges	Horseshoe	Oct. 22, 1867
T. B. Bishop	do	Dec. 24, 1867
George Sowell	do	Feb. 12, 1867
A. S. Wilkinson	do	Feb. 12, 1867
Thomas Waterhouse	do	Dec. 28, 1869
H. G. Haldrick	Horse Shoe and Boot	Oct. 26, 1869
K. Goddard	Horseshoe	May 25, 1869
Perley Laflin	Horseshoe Calk	July 27, 1869
Haseltine and Wheeler	Horseshoe Cushion	Sept. 21, 1869
J. H. Tyler	Horseshoe	Apr. 20, 1869
Smith and Evans	do	June 22, 1869
J. Carman	do	Nov. 19, 1867
H. S. Hatner	do	Jan. 19, 1869
Charles Pillard	do	Sept. 21, 1869
J. Jorey	do	Mar. 30, 1869
William R. Watson	do	Mar. 2, 1869
Jno. A. Heyl	do	Mar. 9, 1869
J. Johnson	Horseshoe	May 4, 1869
Do	Horseshoe Pad	June 22, 1869
P. C. Johnson	Horseshoe	Aug. 10, 1869
E. Whitehead	Horseshoe Calk	Aug. 10, 1869
G. S. Harris	do	Dec. 14, 1869
Handy and Kleibacker	Supplemental Horseshoe	May 11, 1869
William J. Berne	Detachable Horseshoe Calk.	May 18, 1869
J. Johnson	Horseshoe	May 4, 1869
R. H. Parks	do	Apr. 20, 1869
P. Laflin	Horseshoe Calk	Dec. 7, 1869
E. Osgood	Horseshoe Compound	May 18, 1869
David Roberge	Horseshoe	May 25, 1869
George A. Parker		Jan. 5, 1869

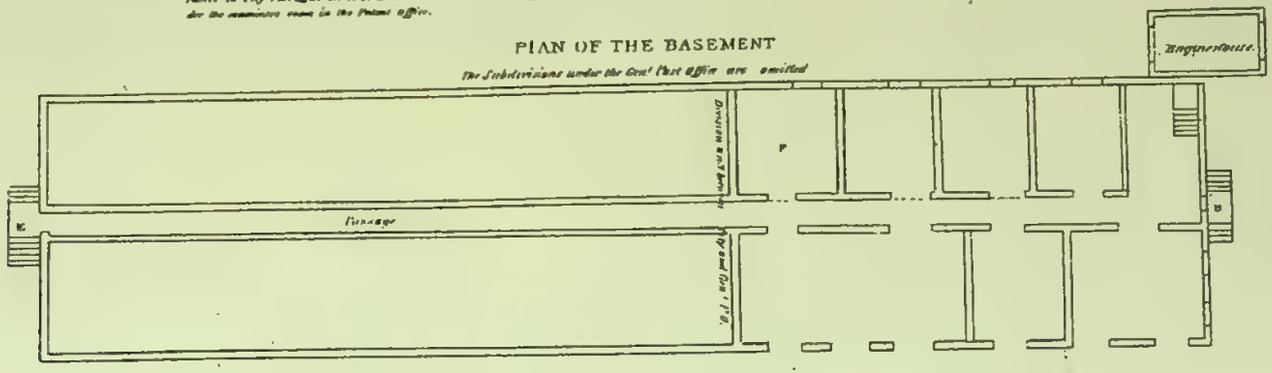
Name.	Device.	Date.
J. J. Marvey	Horseshoe Calk	Aug. 29, 1871
J. Bracket	Horseshoe	Mar. 21, 1871
Rudolph Seiffert	do	Sept. 26, 1871
David Grim	do	Nov. 14, 1871
Daniel Corbin	Horseshoe Pad	Jan. 10, 1871
William H. Halsey	Horseshoe	May 30, 1871
Robert F. Cook	do	Nov. 25, 1873
J. Johnson	Horseshoe Pad	Feb. 11, 1873
Thomas M. Clark	Horseshoe Calk	Jan. 21, 1873
John J. Mervest	do	Mar. 4, 1873
Uriah Snyder	Horseshoe	Nov. 11, 1873
Moses C. Clark	do	Apr. 15, 1873
James B. Johnson	do	Sept. 30, 1873
Albert Leach	do	Aug. 5, 1873
John Rowe, jr. and F. B. Brown.	Horseshoe	Aug. 26, 1873
Charles Goodenough	do	Aug. 26, 1873
George H. Todd	do	Dec. 9, 1873
T. H. O'Neill	do	Apr. 15, 1873
John D. Abbott	do	Sept. 9, 1873
A. W. Smith	do	Sept. 9, 1873
I. D. Mott	do	Mar. 25, 1873
J. K. Christopher	do	Oct. 25, 1873
George Custer	Horseshoe Calk	May 6, 1873
A. Albright	do	Sept. 14, 1875
Alex Moffitt	do	Dec. 28, 1875
A. C. Snowden	do	Aug. 17, 1875
S. N. Stevenson	Horseshoe and Swage	Dec. 28, 1875
M. S. Roberts	Horseshoe	Sept. 14, 1875
Thomas Skelton	do	May 4, 1875
R. French	Oxshoe	Jan. 26, 1875
John B. Wood	Horseshoe Pad	Feb. 2, 1875
John Wanstall	Horseshoe	July 6, 1875
J. E. Davis	Oxshoe	Jan. 5, 1875
Aaron W. Smith	Horseshoe	Dec. 7, 1865
J. H. Dorgan	do	Aug. 10, 1875
Samuel Stone	do	Nov. 2, 1875
J. Russell	do	Aug. 3, 1875
J. T. Walker	do	Sept. 21, 1875
Robert Lee	do	Jan. 26, 1875
N. G. Blatherwick	do	Dec. 7, 1875
C. Hartman	do	June 1, 1875
T. B. Bishop	do	Mar. 9, 1875
McVean and Price	Horseshoe Fastenings	Mar. 30, 1875
Alex Dunbar	Horseshoe	Nov. 23, 1875
Z. V. Purdy	do	Dec. 21, 1875
E. W. Bumpus	do	Oct. 19, 1875
L. E. Brown	do	Oct. 5, 1875
S. B. Henry	do	Feb. 23, 1875
D. Carey	do	Apr. 13, 1875
J. D. Felthausen	do	Apr. 25, 1875
J. B Going	do	Mar. 20, 1877
G. M. McMullen	Horseshoe Calk	May 23, 1876
F. Walk	do	July 11, 1876
George W. Phillips	Horseshoe Pad	July 18, 1876
E. C. Tebbis	Horseshoe	Jan. 18, 1876
D. W. Horn	Horseshoe Pad	June 20, 1876
M. H. Wilcox	Horseshoe	Aug. 1, 1876
William E. Yates	do	Oct. 31, 1876
George Smith	do	Aug. 8, 1876
William Lewis	do	Nov. 14, 1876
Thomas Skelton	do	July 18, 1865
R. Laporta	do	Dec. 8, 1868
J. Jory	do	Feb. 25, 1868
B. Ladd	do	Sept. 1, 1868
G. P. Milligan	do	July 21, 1868
William T. Harmer	do	Feb. 4, 1868
J. Haseltine	Horseshoe Pad	May 19, 1868
L. A. Smith	Horseshoe	Aug. 4, 1868
J. J. Mervesp	do	Dec. 15, 1868
George W. Skinner	do	Feb. 18, 1868
P. Murray	do	Apr. 7, 1868
J. W. Curkendall	do	June 2, 1868
Joseph Barker	do	Dec. 22, 1868
Samuel Mason	do	Nov. 24, 1868
J. N. Clark	do	Aug. 18, 1868
William Hines	do	Apr. 7, 1868
L. H. Kellogg	do	Nov. 24, 1868
T. W. Edson	do	Dec. 8, 1868
G. T. Chapman	do	Feb. 25, 1868
A. E. Kroger	do	Aug. 25, 1868
J. R. Potter	do	July 21, 1868
J. S. Toan	do	July 14, 1868
W. C. Whitmore	do	Nov. 24, 1868
P. C. Johnson	do	Sept. 29, 1868
C. H. Perkins	Horseshoe Calk	June 16, 1868
Z. V. Purdy	Horseshoe	June 30, 1868
H. D. Lyman	do	Sept. 8, 1868
W. H. Hall	Horseshoe Pad	Mar. 8, 1870
H. G. Hedric	Horseshoe and Boot	July 19, 1870
A. L. Murphy	Horseshoe	Feb. 22, 1870
J. Johnson	Horseshoe Pad	July 5, 1870
John Wonderlin	Horseshoe	Nov. 29, 1870
J. Henderson	do	Apr. 17, 1870
D. Roberge	do	Mar. 1, 1870
H. G. Hedrick	Horseshoe Boot	July 5, 1870
Downie & Harris	Horseshoe	Jan. 25, 1870
H. Ingraham	do	Mar. 15, 1870
D. Roberge	do	Mar. 1, 1870
Kinghorn & Kinghorn	do	Feb. 6, 1872
S. J. Baker	do	June 14, 1870

EXPLANATIONS

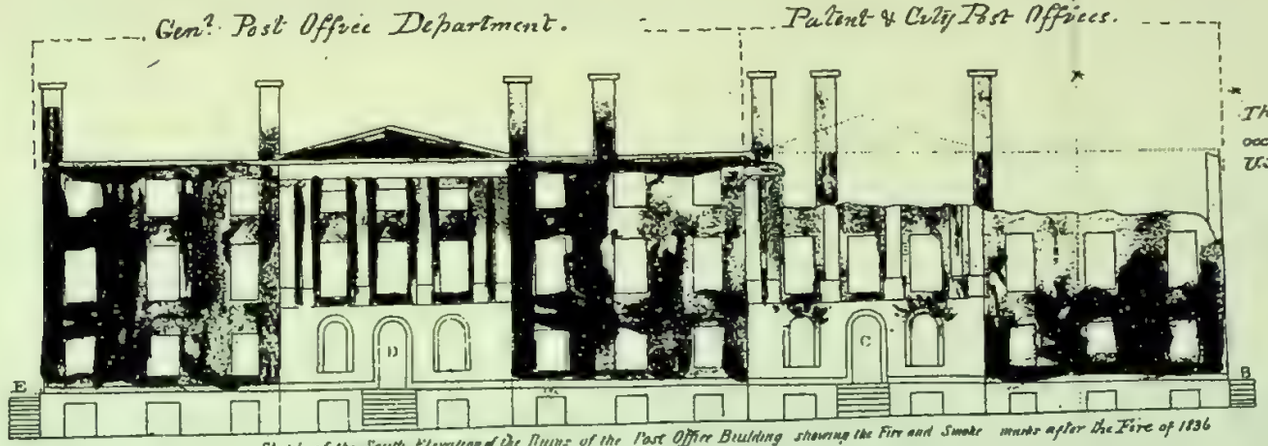
The part Coloured brown upon the plan shows the extent of the City Post office Letter room—the dotted line continued across from the Eleva-tion shows the saloon between the Letter room & Dr Jones room—The 3d Story of the wall above the City Post Office which was standing after the conflagration does not appear in the drawing, having been pulled down—B Steps before the East or Patent Office Entrance on 7th St—C Entrance to City Post Office on F St—D Entrance to Genl Post Office Dep't on E St—E Steps before the West entrance of the Genl Post Office Dep't on 8th St—F Cellar immediately under the examiners room in the Patent office.

PLAN OF THE BASEMENT

The Subdivisions under the Genl Post office are omitted



Gen[l] Post Office Department. Patent & City Post Offices.



This portion occupied by U.S Patent Office.

Sketch of the South Elevation of the Ruins of the Post Office Building showing the Fire and Smoke marks after the Fire of 1836

on file with the Report of the Comm[e] H.R. 24th Cong. 2[d] Sess. (enlarged.) Doc. 134. By W[m] T. Sayre.

RUINS of the POST and PATENT OFFICES Burnt Dec. 15th 1836.

Incumbents.
Hon: Amos Kendall Post-master Gen[l]
" Henry L. Ellsworth Comm[r] of Patents
Doc[r] William Jones City Post-master.

N. Side of E. Street between 7th. & 8th Washington D.C

N. Peters Photo-Lithographer, Washington D.C.

Name.	Device.	Date.
E. Cate	Horseshoe	Apr. 5, 1870
G. Custer	Horseshoe Calk	Apr. 12, 1870
G. Copeland	Horseshoe	May 3, 1870
John S. Robertson	do	Nov. 8, 1870
J. D. Barnum	Horseshoe Calk	June 7, 1870
A. W. Smith	Horseshoe	June 11, 1872
William H. Treleight	do	Mar. 5, 1872
William S. Edwards	do	Jan. 23, 1872
Abraham Soles	do	June 4, 1872
U. Thompson	Horseshoe Stretcher	Feb. 6, 1872
Silas Sloat	Horseshoe	Jan. 23, 1872
Henry Moran	do	Mar. 5, 1872
Charles Parish	do	July 16, 1872
P. A. La France	do	July 3, 1866
J. Stickney	do	Dec. 3, 1872
J. E. Byers	Horseshoe Calk	June 11, 1872
B. P. Hutchinson	Horseshoe	Nov. 19, 1872
Noah Clouse	do	July 30, 1872
J. Stickney	do	May 7, 1872
H. B. Ferran	do	Aug. 20, 1872
Kensing & Hooper	do	Dec. 29, 1874
Richard Austin	do	May 12, 1874
John Keirnan	do	May 5, 1874
L. W. Griswold	do	Aug. 25, 1874
John H. Guesh	Horseshoe-Pad	Oct. 27, 1874
P. M. Papiu	Horseshoe	Apr. 7, 1874
William Fawcitt	do	May 19, 1874
J. Jory	do	Feb. 10, 1874
G. McGregor	Horseshoe Calk	Feb. 10, 1874
D. O. Bradfield	do	Nov. 3, 1874
R. F. Cook	Horseshoe	Sept. 29, 1874
George Briden	do	Sept. 29, 1874
William D. Harris	do	Mar. 17, 1874
S. Milbury and G. A. King	Marsh Horseshoe	Feb. 10, 1874
Girard Dunning	Horseshoe	Feb. 24, 1874
J. Jory	do	Nov. 24, 1874
Daniel L. Corbin	do	Apr. 21, 1874
Edward Murraine	do	June 20, 1876
Dunning & Halfaker	do	Apr. 7, 1874
Daniel Locke and J. N. Bashaw.	Marsh Horseshoe	Dec. 10, 1876
J. D. Rosenberger	Horseshoe-Calk	Dec. 26, 1876
T. W. Murphy	Horseshoe	Feb. 8, 1876
E. Murraine	do	Oct. 10, 1876
Victor Hurst	do	Oct. 10, 1876
T. W. Murphy	do	Jan. 11, 1876
James Lathrop	do	Apr. 4, 1876
E. L. Tevis	do	Jan. 18, 1876
L. Joery	do	Dec. 12, 1876
Charles J. Carr	do	May 12, 1876
G. O. Bergland	Marsh Horseshoe	Dec. 26, 1876
Bradfeet & Perkins	Horseshoe	Aug. 1, 1876
Rattray & Robinson	do	June 20, 1876
L. C. Chase	do	Dec. 12, 1876
A. F. Olds	Horseshoe-Pad	Jan. 18, 1876
T. B. Bishop	do	May 2, 1876
Henry Gourdier	Horseshoe	Mar. 28, 1876
C. W. Atkinson	do	Apr. 3, 1877
Seth T. Bane	Horseshoe Toe-Weight	Feb. 20, 1877
J. C. Brightman	Horseshoe	Apr. 17, 1877
M. McBarron	Horseshoe-Pad	Mar. 27, 1877
C. E. Stockder	do	Apr. 10, 1877
J. P. Sheffield	Horseshoe	Mar. 27, 1877
H. D. Cornish and C. P. Hunt.	do	June 23, 1877
Franz Ernst	do	Feb. 20, 1877
E. E. Seixas	do	June 16, 1877
S. P. Fisher	do	Apr. 17, 1877
J. R. Cancio	do	May 15, 1877
C. H. Perkins	do	June 19, 1877
W. M. Temple	do	June 12, 1877
S. A. Phelps	Horseshoe Toe-Weight	June 12, 1877
Q. M. Young	do	June 19, 1877
R. B. Huger	Horseshoe	July 31, 1877
E. Murraine	do	June 26, 1877
J. A. Conkey	do	Aug. 7, 1877
T. Henry	do	Aug. 7, 1877
T. W. Murphy	do	Aug. 28, 1877
M. S. Woodward	Measuring Horse's Feet	Oct. 29, 1867
H. B. Ferren	do	Sept. 15, 1868
Do.	do	Sept. 15, 1868
H. Herrenschmidt	Tempering Metal (specimen with horseshoes.)	Oct. 31, 1876
Thomas Sumner	Steam-Hammer	June 27, 1854
P. L. Weimer	do	Jan. 31, 1854
L. Kirk	do	Sept. 19, 1848
C. W. and I. P. Williams	do	Aug. 12, 1856
William Ball	Operating Steam-Stamps	May 27, 1856
Bonny & Willard	Operating Steam Trip-Hammer.	Aug. 17, 1858
P. Danvers	do	Sept. 14, 1858
C. W. and J. P. Williams	do	Oct. 4, 1864
T. Beach	do	Sept. 4, 1860
Shifton & Mitchell	Machine for Forging Pipe-Joints and other similar articles.	Oct. 16, 1866
J. T. Turner	Valve-Gear for Steam-Hammers.	July 19, 1864
C. R. James	Operating Hammers and Stamps.	June 19, 1866
James Watt	Valve-Gear for Steam-Hammers.	Jan. 23, 1866
E. L. Kinsley	do	May 8, 1866
J. G. N. Alleyner	Improvement in Forging-Apparatus.	Nov. 27, 1866
H. Hamilton	Valve-Gear for Steam-Hammers.	Mar. 27, 1866
D. Joy	do	Nov. 6, 1866
Do.	Steam-Hammers	Aug. 4, 1868
F. B. Miles	Valve-Gear for Steam-Hammers.	July 21, 1868
D. Davis	Forging-Apparatus	Sept. 15, 1868
C. Vogle	Compressed-Air Forge-Hammers.	Aug. 30, 1870
O. C. Ferris and F. B. Miles.	Steam-Hammers	July 5, 1870
T. R. Morgan	Cylinders for Steam-Hammers.	Apr. 23, 1872
William Sellers	Steam-Hammers	Oct. 22, 1872
William Manson	Atmospheric Hammers	June 23, 1874
Do.	Atmospheric-Power Hammers	June 23, 1874
T. Hill	Steam-Hammers	May 9, 1876
J. B. Collins	Exhaust-Pipe for Steam-Hammers.	June 6, 1876
William Walker	Steam-Hammer	Sept. 26, 1876
J. Masmyth	Operating Forge-Hammers by Steam.	Apr. 10, 1843
R. R. Taylor	Arrangement of Valve-Ports and Passages for Operating Steam-Hammers.	Nov. 29, 1853
J. Watt	Valve-arrangement for Steam-Hammers.	Dec. 6, 1853
L. Kirk	Steam Trip-Hammers	Apr. 3, 1847
Weimer & Francisco	Operating the Valve of Steam-Hammers.	Jan. 27, 1857
B. Hotchkiss	Trip-Hammers	June 14, 1859
R. R. Taylor	Steam-Hammers	Jan. 1, 1861
B. Hotchkiss	Atmospheric Trip-Hammers.	Sept. 15, 1863
R. Morrison	Valve for Steam-Hammers.	June 23, 1863
Do.	Valve-Gear for Steam-Hammers.	Jan. 19, 1863
E. A. Raymond	Improvement in Forging-Apparatus.	Nov. 28, 1865
C. W. Willard	Valve Gear for Steam-Hammers.	Aug. 15, 1865
J. Watt	do	Oct. 10, 1865
W. D. Grimshaw	Atmospheric Hammers	Jan. 10, 1865
W. & C. Sellers	Valve-Gear for Steam-Hammers.	Oct. 29, 1867
R. Mitchell	Cylinder for Steam-Hammers.	Nov. 5, 1867
D. R. Quick and J. A. Gardner.	Steam-Hammers	Aug. 12, 1873
W. H. H. Lisum	Steam Drop-Presses	Apr. 20, 1875
S. D. Wilson	Steam-Hammer	Oct. 5, 1875
J. F. Allen	Pneumatic Engines for Hammers.	July 31, 1877
A. Harbie	Tuyere	Nov. 17, 1868
John Shugert	do	May 9, 1839
L. D. Brown	do	June 14, 1843
John Selsbee	do	Aug. 8, 1837
Ellis Kaign	do	Apr. 2, 1841
L. E. Clow	do	Sept. 23, 1843
R. A. Goodrich	do	Feb. 21, 1843
John W. Rogers	do	Mar. 17, 1868
R. D Porter	do	Mar. 27, 1849
L. C. Miner	do	July 31, 1847
T. E. C. Brinly	do	Dec. 11, 1866
Joseph Dorwart	do	Jan. 14, 1851
S. H. Camp	do	Aug. 21, 1849
E. Harris	do	Jan. 9, 1849
J. Brown	do	Jan. 21, 1868
Sinnott and McIntyre	do	Sept. 18, 1866
C. F. Espick	do	Aug. 11, 1868
John Treat	do	Oct. 2, 1866
R. W. Clark	do	Jan. 14, 1868
Z. H. Munn	do	Dec. 15, 1863
Evan Koons	do	Feb 6, 1866
John Bayliss	do	Aug. 7, 1866
Levi Wilkinson	do	May 22, 1866
John Kriegbaum	do	May 8, 1866
D. S. Loy	do	Mar. 20, 1866
William Graham	do	Aug. 5, 1851
George W. Dean	do	May 17, 1859
J. P. Markham	do	Aug. 16, 1859
S. L. Bond	do	July 26, 1859
F. A Denlerberger	do	Sept. 4, 1866
L. M. Doyle	do	Sept. 18, 1866
A. T. Alterton	do	June 5, 1866
R. D. Kincaid	do	Mar. 27, 1866
J. Weller	do	May 29, 1866
J. R. Harrington	do	Feb. 21, 1865
Taylor and Holmes	do	Apr. 25, 1865
B. Fish	do	Sept. 25, 1866
G. M. Robinson	do	July 3, 1866
W. P. Cain	do	Dec. 26, 1865
R. G. Noble	do	July 25, 1865
D. S. Loy	do	July 25, 1865
Do.	do	Mar. 5, 1867
R. Platt	do	Mar. 25, 1865
D. J. Martin	do	Mar. 20, 1866
J. N. White	do	Apr. 24, 1866

Name.	Device.	Date.
Rames and Owen	Tuyere	Sept. 24, 1867
S. R. Niles	....do	Nov. 1, 1864
J. F. Maguire	....do	July 24, 1866
William Sharp	....do	Jan. 12, 1864
M. W. Barrett	....do	July 19, 1864
William Walden	....do	Aug. 23, 1864
W. M. Everett	....do	Aug. 9, 1864
S. C. Gray	....do	Aug. 2, 1864
C. H. Edwards	....do	Dec. 4, 1860
Tolman and Blodgett	....do	July 10, 1860
M. Mead	....do	June 12, 1860
E. Koons	....do	Jan. 1, 1867
C. C. Farnscrook	....do	Dec. 10, 1867
A. Ordway	....do	May 15, 1860
George O. Miller	....do	Jan. 3, 1854
John R. Himberg	....do	Dec. 10, 1867
John Bayliss	....do	Sept. 17, 1867
S. W. Finch	....do	Apr. 27, 1858
Peter Sweeney	....do	July 20, 1852
B. E. Dixon	....do	Nov. 23, 1858
H. Dearn	....do	July 9, 1867
C. H. Thompson	....do	Feb. 7, 1860
W. W. Ball	....do	Aug. 6, 1867
S. C. McMullen	....do	Nov. 14, 1846
H. S. Berry	....do	Nov. 9, 1858
B. H. Hibber	....do	Aug. 13, 1867
A. Maynard	....do	May 21, 1850
John Pawling	....do	Jan. 22, 1850
Frederick Fisher	....do	Oct. 15, 1867
J. R. Hobbs	....do	Sept. 12, 1846
John Shugert	....do	Mar. 31, 1836
J. W. Crannell	....do	Oct. 22, 1867
A. H. Hart	....do	Mar. 21, 1848
M. Powe	....do	Feb. 26, 1867
C. W. Grannis	....do	June 16, 1846
C. McKay	....do	Nov. 14, 1846
R. Brewer	....do	Nov. 21, 1842
William W. Snow	....do	May 20, 1842
Richard Brewer	....do	Nov. 21, 1842
A. Bissey	....do	June 23, 1838
Joseph Kay	....do	June 8, 1869
Joseph J. Pierce	....do	Mar. 9, 1869
B. K. Taylor	....do	Aug. 24, 1869
S. Epley	....do	Oct. 26, 1869
William Starlin	....do	Jan. 26, 1869
P. Sweeney	....do	June 29, 1869
Do	....do	Feb. 28, 1871
E. Davidson	....do	Oct. 12, 1869
John Horton	....do	June 22, 1869
J. F. Harley	....do	Dec. 7, 1869
J. C. Wilson	....do	Apr. 6, 1869
J. W. Barron	....do	Sept. 7, 1869
J. Bauer	....do	July 18, 1871
E. Trasy	....do	Mar. 21, 1871
A. M. Worthing	....do	Nov. 21, 1871
Thomas S. Clark	....do	Aug. 8, 1871
S. Parsons	....do	Dec. 26, 1871
J. Wood	....do	May 9, 1871
J. Cappon	....do	June 27, 1871
P. L. Weimer	....do	Aug. 8, 1871
John Nelson	....do	Nov. 21, 1871
J. Woodworth	....do	Aug. 13, 1867
Haws and Vaughn	....do	Jan. 14, 1873
George Horsch	....do	Apr. 29, 1873
V. R. Taylor	....do	Apr. 13, 1875
F. H. Lloyd	....do	Aug. 10, 1875
P. H. Standish	....do	Nov. 23, 1875
Krien and Franck	....do	May 11, 1875
F. Bolender	....do	Nov. 16, 1875
H. J. Chandler	....do	Nov. 23, 1875
C. A. Wolff	....do	Apr. 24, 1877
J. S. Van Winkle	....do	June 26, 1877
P. L. Weimer	....do	Aug. 14, 1877
P. Sweeney	....do	Oct. 11, 1870
B. Fish	....do	Mar. 3, 1868
Thomas Clark	....do	Dec. 29, 1868
H. Laird	....do	Feb. 25, 1868
O. G. Newton	....do	Oct. 27, 1868
William H. Myers	....do	June 2, 1868
L. M. Bailey	....do	Jan. 21, 1868
L. Donnell	....do	Apr. 28, 1868
A. G. Mann	....do	Mar. 22, 1870
James O. Jones	....do	Jan. 18, 1870
P. L. Weimer	....do	June 28, 1870
Edward Younge	....do	Aug. 9, 1870
Roots and Roots	....do	Oct. 18, 1870
Joseph Rogers	....do	Sept. 27, 1870
T. W. McCune	....do	May 10, 1870
William Werts	....do	Feb. 27, 1872
Thomas and McLanahan	....do	July 12, 1870
T. Jilson	....do	Aug. 20, 1872
T. Birch	....do	Jan. 2, 1872
John Fearson	....do	May 21, 1872
J. H. Gartaide	....do	Oct. 1, 1872
A. Warren	....do	Apr. 16, 1872
M. Lester	....do	Aug. 22, 1876
C. H. Burbridge	....do	Sept. 3, 1870
N. F. Blodgett	....do	June 2, 1874
C. M. Morgan	....do	Jan. 4, 1876
J. S. Van Winkle	....do	Aug. 22, 1876
Spidle and Holmes	....do	Mar. 14, 1876
T. F. Wetherbee	....do	May 2, 1876
E. Martin	Metal Alloy	Aug. 23, 1859

Name.	Device.	Date.
Monrier and Vallent	Metal Alloy	Mar. 3, 1857
T. J. Jackson	....do	Oct. 31, 1848
N. C. Fowler	....do	Feb. 7, 1865
A. Randall	....do	Dec. 21, 1869
William Rose	....do	July 7, 1863
J. S. Barden	....do	Sept. 21, 1869
H. Aiken	....do	Apr. 1, 1873
J. B. Staples	....do	Aug. 23, 1870
E. Savage	....do	Apr. 26, 1870
R. S. Williams	....do	July 15, 1873
William S. Barnes	....do	Oct. 21, 1848
John Feix	....do	Nov. 25, 1873
J. K. Guile	....do	Dec. 8, 1874
M. H. Campbell	....do	Aug. 25, 1874
D. E. Forbes	....do	Jan. 16, 1872
William Morand	....do	Apr. 7, 1874
Thomas Harrington	....do	Apr. 13, 1875
Morell and Wilder	....do	Nov. 28, 1875
B. Silliman	....do	Apr. 11, 1876
Samuel Doubleday	....do	June 20, 1876
Samuel Doubleday	....do	Mar. 16, 1875
W. S. Ward	Axle Dies	Sept. 15, 1874
W. J. Parmlee	Rolling Axles	Mar. 31, 1874
B. Brunor	Wrought Metal Wheels	Nov. 22, 1870
J. S. Horney	Manufacturing Car Wheels.	Feb. 24, 1874
Joseph Nicholls	Axle Dies	Jan. 18, 1870
M. B Flynn	Bonding Tires	Jan. 13, 1874
C. W. Cardot	Axles	Sept. 4, 1877
T. W. LeRoy	Axle Boxes	Oct. 3, 1876
G. K. Dearborn	Rolling Axles	June 20, 1876
S. Hobler	Bonding Tire	Mar. 3, 1874
J. M. Studebacker	Cooling Tire	Aug. 29, 1876
Joseph Pailca	Setting Tire	Jan. 16, 1872
J. H. Williams	....do	Oct. 18, 1870
C. B. Guy	Cooling and Setting Tire.	Feb. 22, 1870
Silas Buck	....do	June 30, 1874
Shogren and Adams	....do	May 31, 1870
P. Copper	....do	May 29, 1860
G. H. Thatcher	....do	Dec. 12, 1846
J. Courtelyon	....do	Sept. 29, 1868
R. B. Wheatley	....do	Mar. 17, 1868
R. Cawthorne	....do	June 16, 1868
George J. Roblet	Bonding Tire	July 16, 1872
Brown and Gould	Tire Cooler	Jan. 15, 1869
William Van Geison	Nail Head Cover	Dec. 29, 1857
Nicholls and Strong	Nail and Screw	June 11, 1861
A. B. Judd	Nail Head	Mar. 28, 1865
W. E. Doolittle	Knob Screw	July 20, 1869
H. Hickman	Picture Nail	June 22, 1869
F. W. Smith	....do	Dec. 28, 1869
J. W. Bishop	....do	May 11, 1869
Thomas C. Richards	....do	Jan. 10, 1871
L. Wolf	....do	Mar. 21, 1871
J. Plunkot	Billiard Table Bolt Head	July 11, 1871
H. L. Judd	Picture Nail	Sept. 26, 1871
T. C. Richards	....do	Oct. 3, 1871
William E. Sparks	Picture Nail Knob	Aug. 22, 1871
G. Voutschger	....do	Mar. 4, 1873
C. Walsh	Cap Nail	Sept. 30, 1873
T. C. Richards	Picture Nail	Nov. 9, 1875
J. P. Stockton	....do	Nov. 9, 1875
T. C. Richards	Ornamental Nail Heads.	July 27, 1875
Do	Picture Nails	Nov. 16, 1875
O. W. Taft	....do	Aug. 24, 1875
J. McCarthy	Coffin Screw	Feb. 27, 1877
L. L. Crocker	Cut Nail	Apr. 17, 1849
L. Houghton	Rivet Nail	Apr. 15, 1873
H. A. Harvey	Wire Staples	Apr. 2, 1867
W. E. Lockwood	Nail	July 9, 1867
A. S. Wilkinson	Horseshoe Nail	Feb. 12, 1867
D. S. Humphrey	Fence Hook	Dec. 31, 1867
H. A. Harvey	Nail	July 2, 1867
William N. Hall	....do	Jan. 21, 1871
William P. Patton	Nail or Tack	May 19, 1863
William C. Worthen	Weather Filing Nail	Nov. 28, 1871
J. M. Cooper	Making Nails	Mar. 30, 1869
J. B. Sargent	Blind Staple	Dec. 1, 1868
B. T. Nicholls	Nails	Aug. 12, 1873
J. S. Boston	Dowel Brad	June 27, 1871
J. W. Bishop	Harness Bolt	Mar. 16, 1869
H. M. Paterson	Horseshoe Nail	Oct. 26, 1875
E. P. Hincks	Tack	Dec. 7, 1875
B. S. Smythe	Fence Nail	Dec. 14, 1875
A. Marotzki	Nail	Sept. 21, 1873
L. Weaver	....do	Feb. 20, 1877
A. W. Kingsland	Horseshoe Nail	Mar. 29, 1877
D. B. Loring	....do	Aug. 7, 1877
John H. Wygant	Spike	May 22, 1855
William Ballard	Spike and Nails	July 17, 1841
O. Newton	Spike	Sept. 29, 1857
H. Bates	....do	Apr. 7, 1877
G. W. R. Bailey	....do	Dec. 6, 1859
R. J. Dewhurst	....do	July 4, 1865
D. R. Pratt	....do	Nov. 28, 1865
A. Arnold	....do	Mar. 14, 1865
Wm. Montstorm	....do	June 27, 1865
J. McMurtry	....do	June 25, 1867
G. W. McGill	....do	June 4, 1867
Do	....do	Apr. 9, 1867
A. Prentiss	Spike and Nail	Apr. 2, 1867
J. A. Whitney	Spike	Oct. 1, 1867
M. Foster	....do	Dec. 17, 1867

Name.	Device.	Date.
H. T. Love	Railroad Spike	June 1, 1867
John Merlett	Spike	Apr. 9, 1867
L. Postawka	Railroad Spike	July 23, 1867
C. L. Heywood	Spike	Sept. 7, 1869
S. Winkley	do	Mar. 16, 1869
W. S. Shoemaker	do	Nov. 23, 1869
William V. Wallace	do	Oct. 19, 1869
P. J. Dwyer	do	Oct. 5, 1869
T. R. Timby	do	Nov. 14, 1871
Do	do	Dec. 21, 1875
Do	do	Dec. 21, 1875
C. Gaylord	do	Apr. 11, 1871
Torstrick and Bocklin	do	Jan. 17, 1871
Do	do	Jan. 17, 1871
G. N. Sanders	do	Aug. 26, 1873
Do	do	June 22, 1875
Do	do	Feb. 9, 1875
G. N. Sanders and G. W. Sanders.	do	July 15, 1873
G. N. Sanders	do	Feb. 2, 1875
Do	do	Dec. 28, 1875
T. Redfirn	do	June 17, 1873
C. K. Marshall	do	Apr. 13, 1875
J. J. Adgate	do	June 12, 1875
J. M. Kent	do	May 11, 1875
J. B. Sargent	Picture Nail Head	Aug. 21, 1860
N. Judd	do	Apr. 1, 1862
A. B. Bailey	Coffin Screw	Oct. 14, 1862
H. V. Chess	Screw Head	Mar. 29, 1864
F. J. Seymour	Picture Nail	June 26, 1866
H. P. Brooks	do	Feb. 20, 1866
A. D. Judd	do	Nov. 6, 1866
B. H. Bradley	do	Nov. 10, 1868
T. C. Richards	Picture Nail Head	Dec. 31, 1868
E. D. Ives	Picture Nail	Feb. 18, 1868
John Gardner	do	Jan. 7, 1868
S. A. Barker	Coffin Nail Cap	Jan. 11, 1870
Squires and Warner	Picture Nail	Apr. 12, 1870
A. Paterson	do	Aug. 16, 1870
H. L. Judd	do	June 14, 1870
T. C. Richards	do	Dec. 27, 1870
Do	do	Dec. 20, 1870
H. C. Suthers	do	June 21, 1870
John Uster	do	Apr. 16, 1872
E. Kolben	Nail Button	Jan. 2, 1872
S. E. Cary	Picture Nail	Mar. 26, 1872
C. B. Jenkins	do	Dec. 10, 1872
Do	do	May 26, 1874
John O. Niles	do	Jan. 6, 1874
F. J. Seymour	do	July 28, 1874
James Weathers	Ornamental Knob	Apr. 11, 1876
Brown Boardman	Blind Staple	Mar 30, 1858
P. Miles	Tack	June 14, 1870
F. Douglas	Blind Staple	Nov. 12, 1867
B. Boardman	do	May 1, 1866
C. H. Palmer	do	June 3, 1873
T. O. Gard	do	Jan. 7, 1873
H. R. Underhill	Horseshoe Nails	Dec. 31, 1872
William H. Van Gilson	Nail	Feb. 25, 1862
T. A. Mitchell	Carpet Tack	Mar. 29, 1870
Z. I. Pratt	Nails	June 2, 1874
P. Wineman	Horseshoe Nails	July 25, 1876
J. Lowensohn	Nails	Mar. 17, 1874
William T. Steiger	Spike	Jan. 8, 1842
Do	do	Jan. 8, 1842
James Buckelew	do	Sept. 3, 1842
William Emmon	do	Sept. 3, 1842
L. Kirkup	do	Jan. 2, 1866
H. Merrill	do	Nov. 6, 1866
John O. Montignane	do	Feb. 16, 1864
Watts, Wilcox and Tompkins.	do	Mar. 22, 1864
Dunn and Dunn	do	Nov. 3, 1868
Do	do	Nov. 8, 1870
R. K. Walton	do	Oct. 6, 1868
W. W. Martin	do	Jan. 28, 1868
J. Balmer	do	May 26, 1868
J. Montgomery	do	Feb. 22, 1870
J. H. Champlin	do	Feb. 18, 1868
C. Fisher	do	June 2, 1874
H Stebbs	do	Nov. 12, 1872
John Newman	do	Nov. 28, 1876
Eleazar Bliss	do	June 27, 1876
J. N. Adams	Machine for Jointing Stove Pipe.	Feb. 5, 1867
J. L. Mason	Sheet Metal Screw-Caps	Apr. 13, 1869
Cope and Maxwell	Swaging Machine	May 7, 1867
William T. Gillander	Machine for forming Heads on Sheet Metal Caps.	Dec. 3, 1867
A. B. Seymour	Screw-Cap Machine	May 29, 1865
John L. Mason	do	Apr. 13, 1869
Thomas Houghton	do	Sept. 21, 1869
C. C. Blakeslee	do	July 11, 1871
John H. Stone	do	Nov. 28, 1871
F. Rhine	Screw-Thread Dies	June 22, 1875
A. Taplin	Screw-Cap Machine	Apr. 13, 1875
Neuber and Terry	do	Dec. 23, 1873
J. G. Hallus	do	Feb. 6, 1877
William A. McCoolo	do	Apr. 29, 1873
E. B. Coleman	Bolt-Heading Machine	Sept. 15, 1856
Burton, Rogers and Fisher	Anvil and Vise	July 17, 1866
Charles Peters	Anvil	May 4, 1852

Name.	Device.	Date.
E. Hodgdon	Anvil	July 20, 1875
T. B. Hillyer	Anvil and Vise	May 22, 1877
C. Fisher	Cast Iron Anvil	Apr. 24, 1877
H. B. Sevey	Blacksmith's Anvil	Apr. 10, 1877
William E. Canedy	Anvil and Vise	Nov. 21, 1876
A. L. Blackman	Machine for Swaging Car Wheels.	Mar. 9, 1875
H. N. Amerman	Machine for Tire Bending.	June 9, 1874
Horatio Ames	Rolling and Twisting Iron	Oct. 9, 1847
L. J. Masterson	Twisting Metal	Nov. 3, 1874
Samuel Holmes	Twisting and Bending Metal Bars.	Aug. 19, 1873
L. J. Masterson	Twisting Metal	June 30, 1874
Thomas Smith	do	June 4, 1872
Richard P. Rothwell	Machine for Compacting Wire Rope.	Nov. 12, 1872
A. D. Williams	Machine for Twisting Metal.	Oct. 3, 1871
Churchill & Hobson	Eyelet Machine	Sept. 30, 1873
S. N. Smith	do	Mar. 21, 1871
Smith & Young	Separating Eyelet Machine.	Feb. 21, 1871
John C. Rhodes	Eyelet Machine	Oct. 3, 1871
Thomas Garrick	do	Oct. 17, 1871
H. C. Bishop	do	July 6, 1869
Thomas Garrick	do	July 6, 1875
D. Dolkescamp	do	Nov. 2, 1869
G. B. Brayton	do	May 11, 1869
S. W. Adams	do	Mar. 26, 1867
S. W. Young	do	May 21, 1867
L. Richard	do	Jan. 1, 1867
S. W. Young	do	May 21, 1867
D. K. Hoxie	do	Dec. 10, 1867
George B. Brayton	do	Dec. 31, 1867
William R. Sanford	do	Jan. 17, 1871
L. E. Hicks	do	Dec. 17, 1850
S. W. Young	do	Jan. 23, 1866
Wilson & Low	do	Apr. 24, 1866
E. Parker	do	Aug. 23, 1864
W. R. Landfear	do	June 5, 1866
E. B. Butler	do	Aug. 7, 1866
J. F. Richards	do	Oct. 4, 1864
T. Garrick	do	Apr. 10, 1866
E. E. Marsh	do	May 1, 1866
William R Landfear	do	Mar. 6, 1866
John W. Hoard	Eyelet Stock	May 8, 1866
G. B. Brayton	Eyelet Machine	Dec. 8, 1868
George P. Tew	do	June 23, 1868
D. K. Hoxie	do	Feb. 20, 1868
Thomas Garrick	do	June 21, 1870
Do	do	June 21, 1870
Tallman & Hoxie, administrators.	do	Aug. 30, 1870
Do	do	Aug. 30, 1870
S. N. Smith	do	Dec. 27, 1870
S. A. Smith	do	Sept. 13, 1870
S. W. Young	do	Apr. 19, 1870
Do	Eyelet Stock	Apr. 25, 1876
Do	do	Apr. 11, 1876
J. D. Robinson	Eyelet Machine	Sept. 15, 1874
James Buckland	do	Apr. 11, 1876
S. W. Young	Eyelet Stock	Oct. 31, 1876
L. F. Betts	Manufacturing Screw Caps.	Apr. 2, 1872
F. W. Perry	Man'f. Screw Cap	Feb. 3, 1874
V. E. Strayer	Screw Threading Apparatus.	Sept. 19, 1876
J. L. Mason	Chuck for Forming Screw Caps.	Dec. 15, 1874
Do	Screw Cap Machine	Mar. 31, 1868
P. H. Howell	do	Apr. 28, 1874
M. K. Pierce	do	June 14, 1870
Perry & Smith	Screw Cap Chuck	Dec. 15, 1874
Carl Recht	Screw Cap Machine	June 28, 1868
H. E. Anderson	Screw Cap Swage	Nov. 24, 1868
C. H. Chandler	Screw Cap Machine	Sept. 6, 1864
John Rand	do	Aug. 7, 1844
J. L. Mason	Screw Cap Chuck	Mar. 30, 1858
John S. Tuttle	Cylinders for Cotton Gins.	Oct. 14, 1856
R. Nutting	Manufacturing Wire Cloth.	Sept. 27, 1859
C. W. Goodhue	Wire Napkin Ring	July 25, 1871
John McMurray	Wire Guards	Jan. 23, 1872
F. J. Emery	Metal Ornaments	May 6, 1849
James Russell	Card-setting Machine	Oct. 8, 1867
J. W. C. Peters	Woven Wire	June 24, 1873
Do	Woven Mattress	Oct. 15, 1872
D. McFarland	Card-setting Machine	Dec. 7, 1869
John Farnham	Woven Wire Fabric	Aug. 27, 1872
A. Barbarin	Preventing Untwisting Wire Ends.	Dec. 10, 1867
S. Beatty	Perforated Wire	Apr. 26, 1870
J. H. Haskell	Coiling Wire	June 30, 1874
How & Grannis	Manufacturing Wire Heddles.	Sept. 30, 1841
George C. Perkins	Woven Wire Mattress	Nov. 22, 1870
E. H. Russell	Spiral Band	Mar. 28, 1871
Henry Kellogg	Flat Wire Spring	Oct 10, 1865
A. C. Garrett	Wire Fabric	Nov. 16, 1865
J. W. C. Peters	Woven Wire	Dec. 10, 1872

Name.	Device.	Date.
J. W. C. Peters	Wire Fabrics	Mar. 5, 1872
William Beck	Metal Fish Net	Oct. 25, 1870
W. W. Dutcher	Tool for Temple Teeth	Nov. 27, 1866
F. Rowell	Carpet Rag Looper	June 2, 1874
William Collier	Wire for Wire Goods	Sept. 6, 1870
Baham, Wilson & French	Removing Wire Teeth from Cards.	Aug. 4, 1868
N. Chapman	Setting Temple Teeth	Oct. 11, 1875
Topliff & Tunnington	Woven Wire	Jan. 16, 1866
T. A. Dickinson	Card-setting Machine	Mar. 10, 1868
Abia Z. Boda	Woven Wire	Nov. 23, 1875
A. B. Prouty	Card-setting Machine	Oct. 13, 1874
Peter Philip	Heddle Machine	Aug. 9, 1870
Charles J. Hill	Machine for producing reduced copies of Medals.	Apr. 5, 1867
T. Lippiatt	Engine Lathe	May 28, 1867
Do	do	Aug. 1, 1866
Thomas Baggott	Wire Cloth	Aug. 2, 1868
Hertle & Thompson	Manufacturing Wire Heddles.	July 14, 1868
Samuel E. Guild	Setting Card Teeth	Mar. 3, 1870
D. H. McFarland	do	June 25, 1867
William W. Hayden	Ornamenting Lamp Stands.	June 4, 1863
A. Schwitter	Rose Engine	May 10, 1864
A. Schwitzer	Engine-turning Machine	Sept. 1, 1863
J. K. Proctor	Cylinders for Burring Machines.	Oct. 29, 1872
Coats & Russell	Machine for Sticking Card Teeth.	Aug. 1, 1854
Dutcher & Church	Machine for Assorting Temple Teeth.	Mar. 21, 1876
E. Parmenter	Machine for Ornamenting Jewelry, Plate, &c.	May 2, 1865
Hertle & Thompson	Machine for Making Wire Heddles.	Apr. 19, 1870
H. R. Van Eps	Wire Fabrics	Apr. 10, 1877
C. H. Jackson	Hand Truck	Sept 11, 1877
H. W. Chapman	Fire Escape	Sept. 11, 1877
P. B. Martin	Rotary Engine	Sept. 11, 1877
J. H. Thorp	Compound for Artificial Stone.	Sept. 11, 1877
F. Fairbanks and L. G. Spencer.	Platform Scales	Sept. 11, 1877
E. L. Ford	Duplex Printing Machine and Folding Apparatus Combined.	Sept. 11, 1877
F. Jakel	Fire Escape	Sept. 11, 1877
Jordan Garlin	Cotton-Seed Planter	June 20, 1835
R. S. Thomas	do	July 30, 1841
Williams and Bausman	do	Jan. 23, 1855
Samuel Miller	do	Apr. 19, 1853
A. H. Morrel	do	May 13, 1855
L. D. Law	do	Dec. 22, 1857
Justice and Galbreath	do	May 5, 1857
T. J. Rogers	do	Sept. 1, 1857
T. W. White	do	Oct. 20, 1857
Joseph Hall	do	Oct. 13, 1857
William Badger	do	Jan. 13, 1857
J. F. Orr	do	Feb. 3, 1857
J. P. Crutcher	do	Apr. 12, 1859
P. B. Baker	do	Dec. 13, 1859
Kesler and Reinhard	do	Dec. 27, 1859
R. M. Brooks	do	Dec. 27, 1859
Smith and Collier	do	Sept. 13, 1859
J. W. Huntley	do	Aug. 16, 1859
C. C. Garrett	do	Mar. 8, 1859
T. T. and H. W. Collier	do	Sept. 13, 1859
J. P. Allen	do	Oct. 4, 1859
Z. N. Moriel	do	July 5, 1859
E. P. Beauchamp	do	Aug. 9, 1859
Charles Learned	do	May 10, 1859
L. B. Brown	do	Jan. 15, 1861
Daniel Heilong	do	Jan. 15, 1861
L. Miner and N. Felts	do	July 18, 1840
William A. Gates	do	Nov. 16, 1852
J. T. and L. P. Walt	do	Aug. 15, 1854
G. W. Cooper	do	Mar. 7, 1854
John M. Jones	do	Jan. 22, 1856
A. W. Washburn	do	Mar. 25, 1856
J. A. Stewart	do	July 1, 1856
J. L. Horn	do	Feb. 12, 1856
D. J. Beecher	do	Sept. 2, 1856
Charles R. Belt	do	Oct. 21, 1856
D. B. Neal	do	Feb. 23, 1858
Arnold McDonald	do	June 15, 1858
E. T. Bostrom	do	June 29, 1858
J. Ross	do	Apr. 6, 1858
H. P. Allen	do	Aug. 31, 1858
Donovan and Fowler	do	Nov. 13, 1858
C. W. McClanahan	do	Nov. 27, 1860
J. P. Allen	do	Aug. 14, 1860
Z. Doolittle	do	July 10, 1860
N. E. Badgley	do	May 1, 1860
W. Price	do	June 5, 1860
R. C. Nash	do	Dec. 18, 1860
William G. Murphy	do	Aug. 16, 1859
Myers and Wellman	do	Jan. 31, 1865
Frank M. Bacon	do	Sept. 26, 1865
J. C. Tobias	do	Aug. 27, 1867
J. Cox	do	June 11, 1867
B. and N. Platt	do	Aug. 1, 1865

Name.	Device.	Date.
Thomas W. White	Cotton-seed Planter	Apr. 16, 1861
J. Johnson	Combined Cotton-seed Planter and Fertilizer Distributor.	July 16, 1867
James P. Selser	Cotton-seed Planter	Feb. 26, 1867
O. Richardson	do	Dec. 31, 1867
U. T. Stewart	Cotton Planter and Cultivater.	June 18, 1867
J. L. A. Edwards	Cotton Planter	Apr. 9, 1867
E. H. and E. B. Goelet	Seeding-machine	Nov. 26, 1867
F. E. Moran	Cotton-planter	Feb. 26, 1867
J. Armstrong	do	Nov. 26, 1867
J. M. Merrymon	do	Mar. 5, 1867
W. C. Banks	do	Aug. 6, 1867
Wilcox and Caldwell	do	July 16, 1867
J. Shearer and M. B. Armstrong.	do	July 13, 1869
A. H. Woolton	Combined Corn and Cotton Planter.	Sep. 21, 1869
D. H. A. Sanders	Cotton-seed Planter	Apr. 6, 1869
A. V. M. Sprague	do	July 6, 1869
J. M. Elliott	do	July 20, 1869
Nathan Breed	do	June 1, 1869
S. W. Thompson	Cotton-seed Separator and Planter.	Oct. 19, 1869
J. G. Ham	Seed and Manure Dropper.	Aug. 10, 1869
A. R. Nixon	Cotton seed Planter	Dec. 21, 1869
A. W. Brian	do	June 15, 1869
Matthew McMillian	do	Nov. 30, 1869
W. F. Tunnard	do	Sept. 7, 1869
O. P. Humber	do	Nov. 16, 1869
A. R. Wiggs	Combined Cotton and Corn Planter.	Nov. 23, 1869
W. J. Arrington	Cotton-seed Planter and Drill.	July 6, 1869
John G. B. Gill	Cotton-seed and Corn Planter.	Aug. 31, 1869
A. D. Brown	Cotton-seed Planter	Feb. 23, 1869
Alexander R. Wiggs	Cotton-planter	May 11, 1869
R. C. Winn	Machine for Preparing Cotton-seed for Planting.	Dec. 4, 1855
C. Battle	Cotton-seed Planter	Mar. 13, 1860
Benjamin Owen	do	June 26, 1860
C. A. Ross	do	Dec. 4, 1860
R. M. Brooks	Cultivators	June 26, 1860
Abner Cary	Cotton-seed Planter	Feb. 14, 1860
L. Acree	do	Feb. 14, 1860
N. R. Carrington	Seed-planter	Mar. 6, 1860
J. T. Ham	Cotton-seed Planter	Oct. 9, 1860
S. P. Sweeney	do	Apr. 3, 1860
W. A. and J. F. Suddith	do	June 26, 1860
O. L. Gibson	do	Sept. 11, 1860
M. D. Wells	do	Nov. 6, 1866
F. H. Brown	do	June 26, 1866
Basil Spencer	do	Nov. 8, 1864
A. F. Harrison	Cultivators	May 8, 1860
Albany Packham	Cotton-seed Planter	May 26, 1866
J. L. Russell	do	July 10, 1866
N. E. Badgley	do	Oct 16, 1866
W. A. Horrall	do	Oct. 30, 1866
F. H. Brown	do	Oct. 2, 1866
John Pierce	do	Jan. 30, 1866
B. Owen	do	Mar. 20, 1866
Tell and Phifer	do	Nov. 20, 1866
J. G. Clark	do	Oct. 2, 1866
W. L. Gobby	do	Dec. 4, 1866
J. W. McGaffey	do	July 17, 1866
E. Carter	Sugar-cane Planter	Dec. 18, 1866
N. B. Sherwood	Cotton-seed Planter	June 5, 1866
N. E. Badgley	do	Nov. 6, 1866
Runstetler and Windeck	Cotton and Corn-planter	Mar. 10, 1868
E. L. Barnett	Cotton-planter	June 30, 1868
B. Smith	Cotton seed Planter	June 2, 1868
C. Richmond	do	May 12, 1868
A. J. Going	do	Dec. 29, 1868
N. Foster	Cotton and Corn planter	Feb. 11, 1868
Doolittle and Crowder	Cotton-seed Planter	Feb. 18, 1868
A. J. Going	do	Mar. 10, 1868
N. B. Sherwood	do	Mar. 3, 1868
Gilbert Jessup	do	Sept. 8, 1868
Daniel Best	Apparatus for Coating Seed-wheat with Sulphate of Copper.	Nov. 16, 1872
John Wilkie	Machine for Bluestoning Seed-grain.	Apr. 14, 1874
P. C. Ingersoll	Preparing Cotton-seed for Planting.	June 25, 1867
William Blessing	do	July 3, 1866
O. G. Newton	Harrow	June 2, 1874
W. A. Wood	Dividers for Harvesters	Mar. 24, 1863
S. Colburn	Finger Guard for Harvesters.	June 13, 1855
W. A. Wood	Finger Guard for Harvesters.	Dec. 28, 1858
M. B. Riggs	Finger Guard for Harvesters.	Oct. 28, 1862
A. Wissler	do	Dec. 5, 1865
J. P. Manuy	do	July 6, 1858
C. H. McCormick	do	Nov. 5, 1861
O. Hussey	do	Aug. 7, 1847
J. Christy	do	June 2, 1868

Name.	Device.	Date.
T. Neys	Finger Guard for Harvesters.	Dec. 21, 1869
D. Watson	do	June 13, 1857
J. H. Manny	do	June 26, 1855
G. J. Wardwell	do	Feb. 15, 1870
A. Shogren	do	Aug. 2, 1859
W. T. Ketchum	do	Jan. 15, 1859
E. M. Allen	do	Mar. 9, 1868
H. Cutler	do	Mar. 14, 1871
R. W. McClelland	do	Aug. 2, 1864
J. J. Barnes	do	Feb. 11, 1868
J. W. Brokaw	do	Sept. 14, 1858
J. V. Trump	do	Aug. 3, 1858
C. S. Williamson	do	Mar. 26, 1867
M. P. Hathaway	do	Aug. 14, 1866
Entrikin and Davis	do	Apr. 13, 1858
S. Manning	Finger for Lifting Lodged Grain, &c.	Sept. 17, 1867
H. L. Hervey	Cutter Bar for Harvestors	Mar. 18, 1856
M. G. Hubbard	do	Jan. 20, 1857
Do	do	Oct. 11, 1864
William G. Smith	do	Nov. 5, 1860
C. W. Glover	do	June 12, 1856
Do	do	July 15, 1856
R. Dutton	do	Feb. 11, 1868
H. A. Link	do	Aug. 3, 1869
S. Gillam	do	May 29, 1866
H. Marcellus	do	May 3, 1859
H. W. Mason	do	Aug. 30, 1870
T. R. and S. Knowels	do	Feb. 18, 1868
C. T. Bush	do	Sept. 5, 1865
C. Howell	do	Sept. 14, 1858
Paterson and Colborn	do	Mar. 8, 1859
Jones and Prentice	do	Sept. 7, 1869
Baltzby and Hobson	do	Sept. 22, 1857
W. A. Wood	do	Nov. 19, 1867
J. Gore	do	Feb. 16, 1858
F. Russell	do	Feb. 14, 1860
C. P. Russell	do	Oct. 13, 1863
W. N. and A. Whiteley	do	Jan. 18, 1859
G. W. N. Yost	do	Jan. 17, 1856
G. E. Burt	do	Dec. 29, 1868
W. A. Wood	do	July 1, 1856
E. C. Shortt and C. Oberly	do	Apr. 12, 1870
J. P. Manny	do	July 7, 1857
J. H. Whitenack	Harvester Cutter	Mar. 6, 1866
Chester Bullock	Harvester Cutter Bar	Dec. 8, 1857
R. W. McClelland	do	Mar. 22, 1864
William Michael	do	Feb. 9, 1869
E. T. Ford	do	Nov. 3, 1868
W. A. Wood	do	Dec. 2, 1862
J. Urmy (additional model.)	do	July 24, 1855
D. Russell	do	Jan. 30, 1855
G. L. Dulaney	do	Nov. 23, 1869
R. Bean	do	Mar. 20, 1860
G. Esterly	do	Apr. 22, 1856
E. B. Forbush	do	Nov. 27, 1849
S. Colburn	do	Sept. 4, 1855
J. M. Taft	do	Nov. 2, 1869
William Morrison	do	Nov. 22, 1859
G. W. N. Yost	do	Feb. 12, 1856
Do	do	June 10, 1856
F. E. Rogers	do	June 28, 1870
T. D. Aylesworth	do	Sept. 6, 1859
Clark and Clark	do	Oct. 25, 1870
G. L. Dulaney	do	May 18, 1869
George Fetter	do	Apr. 3, 1861
C. P. Gronberg	do	Sept. 7, 1858
Cook and Duncan	do	Mar. 14, 1871
Pluche and Pluche	do	June 10, 1856
J. H. Manny	do	Mar. 25, 1856
A. J. Manny	do	Nov. 28, 1865
I. N. Wehrly	do	Aug. 7, 1866
S. T. Lamb	do	Oct. 2, 1860
S. Bartlett	Harvestor	Feb. 25, 1862
J. Haines	do	Sept. 4, 1855
Do	do	May 22, 1855
C. Bullock	do	Dec. 21, 1858
E. C. West	do	June 25, 1845
T. N. Lupton	do	Aug. 17, 1855
P. Lylla	do	Sept. 17, 1855
William Burgess	do	Aug. 16, 1855
E. A. Morrison	do	Jan. 30, 1855
Dietz and Dunham	do	Jan. 2, 1855
B. F. Nicholson	do	May 15, 1855
W. Garrettson	do	July 6, 1852
E. B. Forbush	do	Apr. 17, 1855
J. A. Wagner	do	May 24, 1853
John Hinton	do	May 22, 1849
J. B. McCormick	do	June 2, 1857
Cox and Newton	do	Nov. 15, 1857
W. T. Mills	do	Feb. 1, 1859
C. B. Brown	do	Sept. 4, 1855
Robert J. Morrison	do	Feb. 13, 1855
W. G. Huyett	do	June 14, 1853
Fisk Russell	do	Aug. 14, 1855
Little and Little	do	July 3, 1855
A. Whiteley	do	Apr. 24, 1855
O. B. Judd	do	Jan. 16, 1855
C. H. McCormick	do	Jan. 31, 1845
John L. Hardeman	do	Aug. 21, 1855
O. C. Green	do	Aug. 28, 1855

Name.	Device.	Date.
Robert Beans	Harvester	Aug. 28, 1855
Hanger and Ryan	Rotary Harrow	Mar. 31, 1874
H. Culver	Harrow and Cultivator	Mar. 9, 1869
William W. Egerton	Harrow	Nov. 7, 1876
C. E. Pierce	Harrow and Cultivator	Feb. 15, 1870
B. W. Taylor	Harrow	Jan. 25, 1876
R. McAdams	Harrow and Cultivator	Aug. 18, 1874
J. A. Casey	Sulkey Harrow	June 21, 1870
C. P. Gronberg	Harvester Cutter Bar	Sept. 7, 1858
Anderson and Johnson	do	May 30, 1871
William S. McCormick	Finger Guard	Nov. 5, 1861
Allen and Ross	Harvester	May 15, 1867
E. M. Birdsall	Harvester Cutter Bar	Oct. 12, 1869
Hotchkiss and Adriance	do	June 21, 1859
J. Atkins	do	Feb. 11, 1868
C. Cadwell	Harvester	Aug. 14, 1866
W. A. Wood	Harvester Cutter	Dec. 10, 1867
Cook and Duncan	do	Mar. 14, 1871
Clark and Clark	do	Oct. 25, 1870
B. Hess	Harvester	Feb. 27, 1866
M. Lewis	Harvester Cutter	June 2, 1868
J. H. Whitnack	do	Mar. 6, 1866
E. P. Russell	do	Mar. 19, 1861
J. L. Fountain	do	Mar. 19, 1857
J. M. Taft	do	—— —, 1869
John H. Owens	do	—— —, 1869
George Esterly	do	Apr. 22, 1856
S. T. Lamb	do	Oct. 2, 1860
M. G. Hubbard	do	Sept. 13, 1864
A. R. Reese	do	July 28, 1857
Pluche and Pluche	Harvester Cutter Bar	June 10, 1856
M. Hallenbeck	do	Nov. 3, 1868
W. A. Vertrees	do	Feb. 28, 1860
J. S. Love	do	Mar. 11, 1856
G. S. Reynolds	do	July 23, 1861
M. B. Riggs	do	Jan. 4, 1862
J. Urmy	do	July 24, 1855
D. H. Thayer	Finger Guard for Harvesters.	Mar. 26, 1861
S. Hull	do	Sept. 14, 1863
E. Smith	do	Apr. 22, 1862
T. D. Burrall	do	Dec. 16, 1856
C. Wheeler	do	May 26, 1863
F. Whitram	do	Dec. 28, 1869
G. L. Du Lany	do	June 8, 1869
W. S. McCormick	do	Nov. 5, 1861
A. A. Hotchkiss	do	Mar. 15, 1864
—— Brown	do	Aug. 24, 1869
J. Schneider	do	Dec. 28, 1869
D. L. Emerson	do	Dec. 10, 1861
C. Cadwell	do	Jan. 22, 1867
H. C. Smith	do	Mar. 2, 1858
J. Burch	do	Sept. 28, 1869
W. A. Sweet	do	Dec. 8, 1863
A. Reese	do	Apr. 22, 1862
D. Warren	do	Dec. 16, 1862
A. Lowmiller	do	Feb. 20, 1866
Whitely Fassler Kelly	do	Aug. 13, 1867
A. Van Duzer	do	Feb. 9, 1858
B. and W. Johnson	do	Aug. 10, 1869
R. Dutton	do	Feb. 11, 1868
L. G. Kniffen	do	Apr. 12, 1864
I. H. Coller	Cutter Bar for Harvesters	Sept. 1, 1863
J. T. Norris	do	June 16, 1868
O. Stoddard	do	May 11, 1858
R. W. McClellan	do	May 22, 1864
S. S. Allen	do	Nov. 8, 1853
S. Hull	do	Aug. 4, 1863
H. F. Shaw	do	Sept. 14, 1865
A. J. Manny	do	Sept. 10, 1869
Davis and Waldron	do	Jan. 7, 1862
C. P. Wing	do	Apr. 5, 1864
C. H. McCormick	do	Nov. 5, 1861
N. J. Hubbard	do	Dec. 9, 1856
R. Dutton	do	July 17, 1866
G. Stone	do	Jan. 8, 1856
H. Bonhotbezer	do	Sept. 14, 1869
M. G. Hubbard	do	Nov. 11, 1856
W. J. Oxer	do	May 24, 1870
A. Winterburn	do	June 27, 1865
H. C. Aydelott	do	Aug. 16, 1870
S. W. Tyler	do	Mar. 20, 1859
Moor and Patch	do	Nov. 25, 1856
E. M. Burdsell	do	Oct. 12, 1869
W. F. Ketchum	do	Jan. 18, 1859
C. K. Myers	do	Feb. 8, 1870
John Reily	do	Apr. 29, 1856
B. T. Roney	do	Apr. 29, 1856
W. H. Hovey	do	Apr. 29, 1856
J. T. Youart	do	May 27, 1856
J. S. Smith and Codie	do	Aug. 31, 1869
M. G. Hubbard	do	June 16, 1857
C. O. Gardner	do	Mar. 1, 1870
R. J. Morrison	do	Jan. 13, 1857
Stephen Hull	do	Dec. 20, 1862
J. W. Prentiss	do	Nov. 28, 1865
C. Howell	do	Oct. 10, 1857
Stoler and Sisson	do	Dec. 17, 1861
R. Dutton	do	Feb. 11, 1868
B. T. Roney	do	Sept. 11, 1860
G. W. N. Yost	do	June 10, 1856
I. S. Love	do	Oct. 7, 1856
D. Russell	do	May 26, 1854

Name.	Device.	Date.
W. G. Kenyon	Cutter Bar for Harvesters	July 18, 1871
Long, Blake and Allstatter	do	Dec. 1, 1857
J. L. Able	do	Nov 29, 1870
J. A. Hebbard	do	Apr. 5, 1870
J. T. Polson	do	Oct. 3, 1871
W. G. Kenyon	do	Mar. 28, 1871
Manny and Marcellus	do	Mar. 6, 1855
J. Kline	do	May 10, 1870
A. Bolander	do	May 21, 1871
T. Garrick	do	Mar. 14, 1871
A. Crosby	do	July 12, 1870
Marshall Harrison	do	Sept. 19, 1871
R. Allstatter	do	May 31, 1870
P. Gregg	do	Apr. 25, 1871
J. H. Manny	do	Apr. 19, 1853
G. Wheeler	do	Sept. 2, 1856
F. S. Pease	do	Nov. 14, 1848
H. Knowles	do	July 2, 1850
D. Stukey	do	Sept. 6, 1870
R. J. Morrison	do	Aug 14, 1855
S. Bell	do	Feb. 28, 1854
J. M. Connel	do	July 19, 1870
H. Marcellus	do	Apr. 13, 1858
J. H. Manny	do	June 24, 1855
B. Murray	do	June 13, 1854
A. J. Cook	do	Sept. 3, 1854
Fyfe and Hara	do	Mar. 7, 1871
J. H. Manny	do	June 21, 1853
Shirk and Shirk	Harrow	Feb. 8, 1870
A. Brown	Finger Guard	Oct. 22, 1867
G. F. Quick	do	July 19, 1864
T. C. Hargraves	Cutter Bar	Dec. 17, 1861
A. Hussey	do	Apr. 14, 1857
S. Copeland	do	Feb. 19, 1861
Do	Finger Guard	May 16, 1865
L. G. Kniffin	Cutter Bar	Dec. 24, 1861
M. G. Hubbard	do	Sept. 13, 1864
W. A. Ventrees	Harvester	Feb. 28, 1860
R. H. C. Preston	Finger Guard	Sept. 10, 1861
I. S. Love	Cutter Bar	Mar. 11, 1856
William H. Seymour	do	Dec. 15, 1856
W. A. Kirby	do	Apr. 15, 1856
—— Van Brunt	Van Brunt & Barber Seeding Machine.	July 22, 1862
S. Millinger	Fruit Gatherer	Aug. 7, 1866
D. T. Gillis	Harrow	Dec. 22, 1874
J. F. Adams	Fruit Gatherer	Feb. 29, 1876
Holbrook, Howe & Nourse	Swivel Plow	May 17, 1870
Do	do	May 17, 1870
E. G. Matthews	Plow	Jan. 30, 1872
H. J. Heaton	Cultivator	Dec. 16, 1862
G. W. Van Gorder	Sulkey Harrow	Mar. 4, 1873
L. J. Corbin	Seed Planter	Jan. 13, 1874
Isaac Law	Harrow	Aug. 31, 1869
F. H. Manny	Seed Sower	May 31, 1870
E. G. Matthews	Plow	Feb. 6, 1877
A. J. Shunk	Fruit Gatherer	Feb. 20, 1877
C. C. Garrett	Seed Planter	Mar. 12, 1867
J. F. Gazley	Harrow	May 27, 1873
Orson Billings	Harvester	Sept. 12, 1871
Amos Foot	do	Apr. 13, 1869
A. G. W. Foster	Seed Planter and Guano Distributor.	Mar. 31, 1874
Feelghum and Lawrence	Corn Planter	July 1, 1873
A. C. Evans	Seeding Machine	Nov. 24, 1874
William P. Dale	Cultivator	Mar. 11, 1873
William S. Barton	Seed Planter	June 13, 1874
George W. Hendricks	Corn Planter	Aug. 6, 1872
Hunt and Haines	Seed Planter	Jan. 5, 1858
M. Easterbrook	Mowing Machine	May 22, 1866
E. J. Dickey	Seed Planter	Jan. 23, 1849
Savage and Doty	do	May 20, 1873
H. Hufendeck	Drill	Jan. 1, 1867
M. Lewis	Cutter Bar	June 2, 1868
S. Hull	do	Dec. 2, 1862
S. Comfort	do	Apr. 7, 1857
John H. Owen	do	Apr. 20, 1869
J. L. Fountain	do	Nov. 17, 1857
G. S. Reynolds	do	June 23, 1861
E. P. Russell	do	Mar. 19, 1861
M. Hallenbeck	do	Nov. 3, 1868
Do	do	May 18, 1858
A. Brown	do	Aug. 24, 1869
Allen and Ross	do	Oct. 29, 1867
C. W. Woodford	Horseshoe Nail Machine	Mar. 5, 1872
Stephen Butterfield	Nail Machine	Jan. 25, 1876
Dillon and Cleary	Soldering Machine	Jan. 30, 1877
Charles Krebs	Countersink	May 12, 1868
W. T. Nichols	Road Scraper	Mar. 21, 1871
J. Case	Corn Planter	Jan. 16, 1855
M. M. Sprinkle	Planter and Fertilizer	June 1, 1869
J. H. Carathers	Corn Planter	July 26, 1853
D. N. Thayer	Snow Shovel	Sept. 19, 1865
P. C. Kierns	do	Feb. 6, 1877
A. Q. Adams	do	Jan. 10, 1871
Hotchkiss and Adriance	Guard Finger, &c	June 21, 1859
Hardy and Morris	Rotary Pump	Mar. 5, 1861
Joseph L. Abell	Cutter Bar, &c	Nov. 29, 1870
Joseph Wood	Railroad Switch	Feb. 16, 1858
K. L. Mills	Water Motor	Jan. 2, 1877
A. J. Stott	Hydraulic Engine	Mar. 6, 1877

Name.	Device.	Date.
A. Whiteley	Attaching Wheels to Harvesters, &c.	Apr. 24, 1855
Anderson and Johnson	Cutter Bar, &c	May 30, 1871
A. Wemple	Mowing Machine	Jan. 29, 1867
W. J. Nicholson	Corn Planter	July 31, 1877
John F. Alt	Flower Pot	Aug. 7, 1877
J. F. Winchell	Seeding Machine	Aug. 3, 1874
J. B. Bushnell	do	Aug. 29, 1876
G. W. N. Yost	Harvester	Aug. 18, 1868
Do	do	Mar. 23, 1869
Do	do	Apr. 15, 1873
Woodard and Snyder	Saw-Mill	Apr. 9, 1872
John Thompson	Plow	Apr. 17, 1844
F. P. Sheldon	Machine for Threading Screws.	Nov. 30, 1875
William H. Paine	Propelling Cars	Feb. 8, 1876
A. Meyer	Insect Powder Ejector	June 1, 1871
J. Neff, jr	Cultivator	Sept. 20, 1870
Joseph Jones	Wheel Plow	Aug. 10, 1858
A. H. Jarecki	Pipe Tongs	Apr. 22, 1873
Dudley Hills	Plow Gatherer	Oct. 7, 1844
A. W. Gifford	Screw Machine	Sept. 28, 1875
—— Hallidig	Endless Rope Railway	July 16, 1872
A. E. Hovey	Propelling Cars	Apr. 18, 1876
George B. Field	Spading Machine	Jan. 4, 1859
Charles M. Du Puy	Specimen of Iron and Steel, (f).	Jan. 23, 1872
B. T. Currier	Cutting up Cotton Plants	Mar. 6, 1860
Coalman and Young	Harvester	Feb. 15, 1870
E. Clark	Middlings Purifier	Dec. 31, 1872
Joseph Irwin	Cutting Apparatus for Harvesters.	July 7, 1857
J. Atkins	Harvester-cutter	Feb. 11, 1868
Brown, Worcester & Griswold.	Guard-finger for Harvester.	Oct 24, 1867
Benjamin Hess	Harvester	Feb. 27, 1866
O. J. Newton	Harrow	June 2, 1874
Hanger & Ryan	Rotary Harrow	Mar. 31, 1874
George A. Pounder	Harrow	Aug. 1, 1876
William W. Egerton	do	Nov. 7, 1876
B. W. Taylor	do	Jan. 25, 1876
R. McAdams	Combined Harrow and Seeder.	Aug. 18, 1874
J. A. Casey	Combined Harrow and Cultivator.	June 21, 1870
C. E. Pierce	Roller, Harrow, and Seeder.	Feb. 15, 1870
H Culver	Harrow and Cultivator	Mar. 9, 1869
William J Carroll	Cotton-bale Tie	Jan. 23, 1866
J. R. Spear	Bale Tie	Dec. 1, 1857
James Akin	do	May 1, 1860
Jno. D. Strait	Mowing-machine Gearing.	Oct. 19, 1869
Robert Shepard	Land-leveler	Apr. 1, 1862
Robert J. Boyd	Road-scraper	Dec. 29, 1868
A. Wilkinson	Bee-hive	Jan. 24, 1871
F. M. Lechner	Mining-machine	Jan. 25, 1876
O. H. Smith	Logging-dog	Apr. 4, 1876
A. E. Hovey	Rope-gripper for Propelling Vehicles.	Apr. 18, 1876
M. T. McCormick	Oil-well Wall Cleaner	Nov. 14, 1876
J. S. Winson	Automatic Gate	May 26, 1874
F. H. Craft	Pulley	Feb. 29, 1876
A. Betts	Device for Changing Speed of Machinery.	Nov. 11, 1873
Simpson and Pope	Tackle-block	July 25, 1876
H. F. Shaw	Cutting Apparatus for Mowing-machine.	June 4, 1870
P. Manny	Cutting Apparatus for Harvester.	Aug. 25, 1857
W. T. B. Read	Harvester	June 2, 1857
A. R. Reese	Guard-finger for Harvester.	July 28, 1857
T. B. Collins	Harrow	June 29, 1869
W. F. Ketchum	Finger-guard for Harvester.	Apr. 25, 1854
William F. Cochrane	Bolting Flour	Jan. 6, 1863

The following is a list of all the models that were saved from all classes of the issues of September 11 and 18, 1877:

Oscar Edgars	Rotary Engine and Pump.	Sept., 1877
E. Rublmann	Garden Wheel Hoe	Sept. 11, 1877
J. H. Pattee	Cultivator	Sept. 11, 1877
E. L. Ford	Printing and Folding Machine.	Sept. 11, 1877
A. P. Henery	Cultivator	Sept. 11, 1877
F. Jakel	Fire-escape	Sept. 11, 1877
A. J. Martin	Grain Drill	Sept. 11, 1877
William L. Hofer	Adding-machine	Sept. 18, 1877
William H. Hoyt	Register for Freight-cars	Sept. 18, 1877
Isaac Mazer	Purifying Raw Animal Fats.	Sept. 18, 1877
John Besanson	Cleaning Plush and Cloth	Sept. 18, 1877
John Braun	Lawn-mowers	Sept. 18, 1877
H. Colford	Spark-arrester.	Sept. 18, 1877
G. C. Steinhauer	Boots and Shoes	Sept. 18, 1877
D. A. Woodward	Solar Camera	Sept. 18, 1877
R. Smith	Plowshare	Sept. 11, 1877